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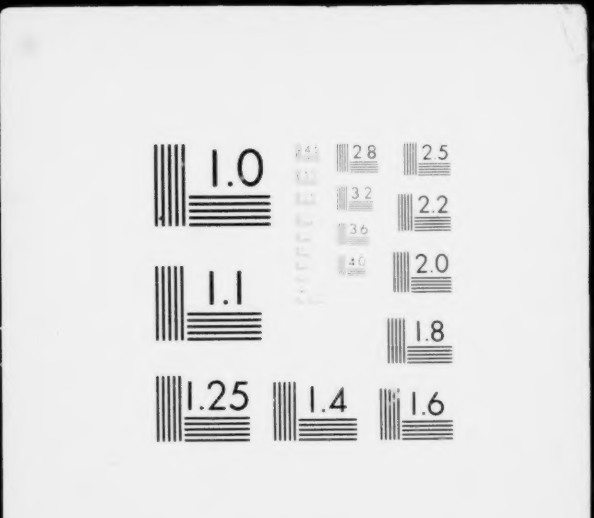
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ABSTRACT

The Milwaukee Public Schools, upon the completion of the second year of their environmental education project, report the evaluation of the eight component parts that make up the project. The components are: Teacher Leadership Workshop; Inservice Workshops; Curriculum Development Workshop; Open-End Grant Program; Field Trips Pilot Project; Student Involvement Program; Exceptional Education/Handicapped Program; and Demonstration Farm Pilot Project. This education program involved the cooperative participation of community representatives, administrators, teacher committees, and curriculum development specialists. The report presents a summative evaluation of each component, examining and discussing the objectives and activities encompassed. Successes and failures in meeting specific objectives are discussed and recommendations for future work are suggested. This work was prepared under an ESEA Title III contract. (JP)

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ENVIRONMENTAL EDUCATION

SECOND YEAR EVALUATION REPORT
1972 - 1973

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SE 016 978

DIVISION OF PLANNING AND
LONG-RANGE DEVELOPMENT

DEPARTMENT OF EDUCATIONAL RESEARCH
AND PROGRAM ASSESSMENT

ENVIRONMENTAL EDUCATION
SECOND YEAR EVALUATION REPORT

An Abstract

MILWAUKEE PUBLIC SCHOOLS
Milwaukee, Wisconsin

This document presents the evaluation of the eight components of the Environmental Education Project during the second year of its operation. The project, supported primarily under provisions of the Elementary and Secondary Education Act, Title III, was administered by the Milwaukee Public Schools and included involvement with Model Cities Neighborhood and non-public schools as well as other community agencies. Basically, the goal of this project which introduced environmental education throughout the K-12 curriculum was to develop a citizenry aware of the environment and its problems, knowledgeable of solutions to the problems, and motivated to take positive environmental action.

A three-week Teacher Leadership Workshop, Component 1, trained a selected group of teachers, community representatives, and school administrators, called the Cadre, in environmental issues and problems. This component was successful in meeting eight of ten objectives.

For Component 2, a ten-session television series in environmental education was presented to interested teachers of public and non-public schools during the Spring of 1973, and two ten-session workshops providing indepth study of solid waste and energy crisis problems were presented during the fall and spring semesters, respectively. Nine of ten objectives were met by this component.

In the Curriculum Development Workshop, Component 3, cadre members, teachers, administrators, and curriculum specialists developed materials which would ultimately provide teachers with the means to integrate environmental concepts into many curriculum areas and grade levels. This component successfully met seven of twelve objectives.

The Open-End Grant Program, Component 4, gave students the opportunity to develop and submit, for funding, creative ideas to the solution of environmental problems. Nine of thirteen measured objectives were met for this component.

The Field Trip Pilot Project, Component 5, enabled fifth-grade public and non-public school classes to participate on an urban field trip to increase their awareness and knowledge of the urban environment and gave secondary school groups the opportunity to plan a field trip to an environmental site of their choice. This component successfully met nine of ten measured objectives.

The Student Involvement Program, Component 6, provided secondary students with the opportunity to study local environmental problems and solutions and prepared them for leadership roles within their school environments. This component met four of eight objectives.

The Exceptional Education/Handicapped Program, Component 7, gave selected emotionally-disturbed junior high school boys the opportunity to learn within an atmosphere emphasizing environmental improvement and student guidance. This component met eleven of eighteen measured objectives.

The Demonstration Farm Pilot Program, Component 8, gave public and non-public elementary school classes the opportunity to participate in a guided field trip on a farm to increase this knowledge of the farm environment. This component met five of its nine objectives.

Collectively, the eight components had ninety-three objectives for the second project year. Ninety of these objectives were evaluated, and sixty-two, or 69%, of the measured objectives were successfully met. Fifty of the measured objectives were product objectives and forty were process-management objectives. Thirty-two, or 64%, of the product objectives and thirty, or 75%, of the process-management objectives were successfully met.

MILWAUKEE PUBLIC SCHOOLS
Milwaukee, Wisconsin

ENVIRONMENTAL EDUCATION

SECOND-YEAR EVALUATION REPORT

1972 - 1973

Funded by
ESEA Title III, Section 306
and
The Milwaukee Public Schools

Division of Planning and
Long-Range Development

Department of Educational Research
and Program Assessment

PREFACE

This report presents a summative evaluation of environmental education activities that occurred during the second year of its operation and follows an interim report issued in February, 1973. The report will describe evaluation activities and findings as of July 1, 1973, covering the time period July 1, 1972 to June 30, 1973. This report provides interested people with information regarding program progress; this information will, hopefully, facilitate the continued improvement of program activities.

This Environmental Education Project was funded in large part by ESEA, Title III. Program activities were coordinated by Miss Nancy Noeske of the Department of Elementary and Secondary Education, Milwaukee Public Schools. The reporting procedures were aided by cooperation from the project coordinator, the technical assistant, and others working directly on the project. Their efforts were considerable and facilitated the preparation of this report.

TABLE OF CONTENTS

Page

PREFACE iii

LIST OF TABLES vii

INTRODUCTION 1

SECTION

I NARRATIVE REPORT 3

Component 1 - Teacher Leadership Workshop
- Description 4
- Findings 5
- Discussion and Conclusions 9

Component 2 - Inservice Workshops
- Description 11
- Findings 12
- Discussion and Conclusions 19

Component 3 - Curriculum Development Workshop
- Description 21
- Findings 23
- Discussion and Conclusions 28

Component 4 - Open-End Grant Program
- Description 30
- Findings 32
- Discussion and Conclusions 34

Component 5 - Field Trip Pilot Project
- Description 36
- Findings 37
- Discussion and Conclusions 43

Component 6 - Student Involvement Program
- Description 45
- Findings 46
- Discussion and Conclusions 49

Component 7 - Exceptional Education/Handicapped Program
- Description 51
- Findings 52
- Discussion and Conclusions 57

Component 8 - Demonstration Farm Pilot Program
- Description 59
- Findings 60
- Discussion and Conclusions 64

Summary and Recommendations
- Component 1 66
- Component 2 66

TABLE OF CONTENTS (Continued)

Page

Component 3 67
Component 4 68
Component 5 68
Component 6 69
Component 7 70
Component 8 71

II OBJECTIVES, PROCEDURES, FINDINGS 73

Component 1 - Teacher Leadership Workshop 74
Component 2 - Inservice Workshops 79
Component 3 - Curriculum Development Workshop 84
Component 4 - Open-End Grant Program 89
Component 5 - Field Trip Pilot Project 95
Component 6 - Student Involvement Program 101
Component 7 - Exceptional Education/Handicapped Program . . . 105
Component 8 - Demonstration Farm Pilot Program 113

III THE PLANNING PROCESS 121

IV MODEL CITIES INVOLVEMENT 127

V NON-PUBLIC SCHOOLS AND OTHER COMMUNITY INVOLVEMENT 131

APPENDICES

Appendix A: Instrumentation 137
Appendix B: Listing of Proposals Under Open-End Grant Program . . 251
Appendix C: Needs Assessment Instrumentation 261
Appendix D: Needs Assessment Procedure 279

LIST OF TABLES

Table | Page

1 SUMMARY OF EVALUATION FINDINGS FOR COMPONENT ONE OBJECTIVES 6

2 CHANGE IN VALUES OF WORKSHOP PARTICIPANTS 7

3 PERCENT OF HIGHEST POSSIBLE POINT TOTAL MADE BY CADRE MEMBERS 8

4 PERCENTAGE OF SESSIONS MEETING INFORMATION LEVEL 9

5 SUMMARY OF EVALUATION FINDINGS FOR COMPONENT TWO OBJECTIVES 12

6 WORKSHOP PARTICIPANTS' RATINGS OF THE EFFECTIVENESS OF THE FALL SOLID WASTE AND THE SPRING ENERGY CRISIS WORKSHOPS IN MEETING THEIR FOUR PRINCIPAL GOALS 14

7 PERCENTAGES OF RESPONDENTS THAT PLANNED TO INTRODUCE AND/OR HAD INTRODUCED ENVIRONMENTAL EDUCATION CONCEPTS DEVELOPED IN THE TV WORKSHOP INTO THEIR SCHOOL ACTIVITIES 16

8 WORKSHOP PARTICIPANTS' RATINGS OF THE EFFECTIVENESS OF THE TV WORKSHOPS IN MEETING THEIR FOUR PRINCIPAL GOALS 18

9 SUMMARY OF EVALUATION FINDINGS FOR COMPONENT THREE OBJECTIVES 23

10 RATING OF CURRICULUM SPECIALS BY TEACHERS VIEWING TELECASTS 25

11 TEACHER RESPONDENTS' RATINGS OF THEIR USE OF CURRICULUM MATERIALS 26

12 EXTENT TO WHICH WORKSHOP PARTICIPANTS AGREED THAT WORKSHOP PERSONNEL PROVIDED ADEQUATE ASSISTANCE AND GUIDANCE . . 28

13 SUMMARY OF EVALUATION FINDINGS FOR COMPONENT FOUR OBJECTIVES 32

14 PERCENTAGES OF SCHOOL ACTION COMMITTEES HOLDING AT LEAST ONE MEETING IN SIX OR MORE MONTHS 34

15 SUMMARY OF EVALUATION FINDINGS FOR COMPONENT FIVE OBJECTIVES 38

16 DISTRIBUTION OF THE FALL URBAN FIELD TRIP PRE AND POSTTEST SCORES 39

LIST OF TABLES (Continued)

Table Page

17 RATING OF URBAN FIELD TRIP TEACHING AND RESOURCE MATERIALS BY PARTICIPATING TEACHERS 41

18 SUMMARY OF EVALUATION FINDINGS FOR COMPONENT SIX OBJECTIVES 46

19 PROJECT PERSONNEL'S RATING OF REASONABLENESS OF STUDENTS' SOLUTIONS TO AT LEAST FIVE ENVIRONMENTAL PROBLEMS 48

20 EXTENT TO WHICH PARTICIPANTS AGREED THAT THE ENVIRONMENTAL ISSUES WORKSHOP INCREASED AWARENESS OF ENVIRONMENTAL PROBLEMS FACING THE COMMUNITY 49

21 DISTRIBUTION OF RESPONSES TO THE LEADERSHIP WORKSHOP EFFECTIVENESS QUESTIONNAIRE 49

22 SUMMARY OF EVALUATION FINDINGS FOR COMPONENT SEVEN OBJECTIVES 52

23 JUDGES RATING OF LAVARNWAY STUDENT ATTITUDES TOWARD SCHOOL ENVIRONMENT AT THE END OF THE FALL SEMESTER . . . 54

24 JUDGES RATING OF LAVARNWAY STUDENT ATTITUDES TOWARD SCHOOL ENVIRONMENT AT THE END OF THE SPRING SEMESTER . . 55

25 EXTENT OF TEACHER AGREEMENT THAT PROGRAM STUDENTS DEMONSTRATED IMPROVED SOCIAL INTERACTION WITH PEERS 56

26 SUMMARY OF EVALUATION FINDINGS FOR COMPONENT EIGHT OBJECTIVES 61

27 PERCENT OF CORRECT RESPONSES MADE BY STUDENTS ON PAPER AND PENCIL TEST 62

INTRODUCTION

This report contains five sections. Section I describes program activities and presents program findings in a narrative manner. This narrative presentation of findings is a simplification of Section II which is a detailed explication of program objectives, measurement procedures, and findings. Three remaining sections provide information concerning project planning, Model Cities involvement, and non-public schools and community involvement.

The first two sections are divided into subsections which correspond to the eight program components. In addition, a summary subsection concludes Section I. Each of the first eight subsections of Section I gives a program description, the evaluation findings, and a discussion of findings and conclusions for a program component; subsection nine summarizes, by component, conclusions and gives recommendations. Section II details for each of the eight program components the objectives, assessment procedures, and findings.

In Sections I and II, findings are presented for two types of objectives, product and process. Product objectives stated anticipated results of the program such as expected student behaviors or production of curricular materials. Process objectives referred to the program activities by which the product was to be achieved. Ideally, program implementation consistent with the process objectives should have led to educational products meeting the expectations of the product objectives.

Four appendices follow the main body of the report. Appendix A describes and contains the instrumentation used to measure component objectives; Appendix B is a listing of proposals under the Open-End Grant Program, Component 4; Appendix C contains instrumentation used in the mid-year needs assessment; and Appendix D contains a brief description of the needs assessment procedure being developed for use during the 1973-74 school year.

It is suggested that the reader begin with the narrative section of the report, referring to Section II, Objectives, Procedures, and Findings, when desiring more detailed information in regard to specific objectives. References to measurement instruments in Appendix A are made at appropriate times in the "Procedures" column of Section II.

SECTION I

NARRATIVE REPORT

This narrative section consists of nine subsections. The first eight correspond to the eight components of the Environmental Education Program and describe program activities, present findings relevant to component activities, and discuss the findings and give conclusions for each of the eight program components. The last subsection is a summary of the first eight subsections and presents salient conclusions and makes recommendations regarding the eight program components.

Component 1 - Teacher Leadership Workshop

Description

A second summer Teacher Leadership Workshop was held July 14th through August 4th, 1972. Participants in this workshop constituted a group of newly-trained cadre that support the experienced cadre, trained in 1971 to coordinate environmental education activities at the school and cluster level. This three-week Teacher Leadership Workshop was divided into two parts, a two-week session at the University of Wisconsin-Green Bay (UW-GB) and a one-week session in Milwaukee.

The Teacher Leadership Workshop was designed to accomplish the following goals:

-- To develop a new understanding and new awareness of man's relationship to his environment - an "environmental literacy"

-- To explore and become knowledgeable in the scientific, economic, political, cultural, and sociological aspects of environmental problems/issues and the solutions

-- To provide the opportunity to explore the environmental ecological concepts as they relate to the multidisciplines within a school curriculum

-- To develop the "cadre spirit" - a K-12 interdisciplinary team working together toward a common set of objectives to bring about change in the Milwaukee Public Schools

-- To study decaying urban areas and all of the related problems and proposed solutions

-- To develop the necessary skills and techniques to identify and factor problems and follow through with cooperative action programs

-- To provide guidelines for the development of K-12 curriculum materials for the Environmental Education Program

Thirty-two selected elementary and secondary teachers, seven Milwaukee Public Schools supervisory and administration personnel, and seven representatives from community agencies participated in the UW-GB workshop. The UW-GB sessions focused on ten selected environmental problem areas. Participants were given an opportunity to become sensitive to each problem area, to analyze each problem from various viewpoints, and to explore ways of integrating environmental concepts into the curriculum. The participants took part in audio and/or visual presentations, field trips, and discussion group activities led by UW-GB staff members and invited guest speakers.

After the two-week session at Green Bay, participants were joined by the experienced cadre and the recently-trained student cadre for a one-week session in Milwaukee. These three groups studied local urban problems and possible solutions to them with UW-GB and local university consultants and community resource personnel guiding the sessions. Students and teachers were then teamed to formulate plans of action to be implemented in their respective schools during the school year.

The newly-trained cadre together with the experienced and student cadre are to provide leadership that will help produce interdisciplinary concern for environmental issues at all grade levels.

Findings

Table 1 summarizes the evaluation findings for the ten objectives of Component 1. Four of the five product objectives met their established performance criteria, and four of the five process objectives met their established performance criteria.

TABLE 1

SUMMARY OF EVALUATION FINDINGS
FOR COMPONENT ONE OBJECTIVES

Type of Objective	Number of Objectives	Met Criteria	Did Not Meet Criteria
Product	5	4*	1**
Process	5	4	1***

* Objective 5 was not measured in strict accordance with the established performance criteria. (See Page 76)
** Objective 4 (See Page 75)
*** Objective 6 (See Page 77)

Four of the five product objectives dealt with the Leadership Workshop held at UW-GB, the fifth dealt with the one-week Milwaukee session.

In the judgement of the Green Bay staff, all workshop participants successfully completed at least 16 of 18 suggested environmental activities. This performance exceeded the established criteria of at least 80% of the participants completing 12 or more of 18 suggested environmental activities. In the judgement of the UW-GB staff, 91% of the workshop participants developed an acceptable position in respect to an environmental situation. This percentage exceeded the performance criterion of 90%.

Workshop participants were asked to document any changes in their environmental values resulting from the workshop. Participants indicating value changes expressed in writing one or more environmental values held before the workshop and the changes in those values which occurred as a result of the workshop. In the judgement of program personnel, all but one of the value changes adequately expressed were positive. Five participants indicated that they experienced no environmental value changes as a result of the workshop; two of these participants indicated that their unchanged values were positive. Six participants were unable to state their environmental values in writing. Their responses were not used in the measurement of this objective dealing with changes in environmental values. Thus, 19 of 25, or 76%, of the responses adequately expressed were judged to have been positive value changes. This percentage exceeded the performance criteria of 70% and the objective was considered met. Table 2 presents the findings for this objective.

TABLE 2

CHANGE IN VALUES
OF WORKSHOP PARTICIPANTS

N=31

Number Expressing Change in Value			
Positive Change	Negative Change	No Value Stated	No Change in Value
19	1	6	5*

* Value could be positive or negative. In two cases, participants indicated that they already held positive ecological values.

One product objective dealing with the UW-GB workshop was not measured in strict accordance with the established performance criteria. UW-GB staff constructed, administered, and scored a test designed to measure understanding of environmental concepts. The scoring procedures used did not make it possible to compare the results with the established performance criteria (see Appendix C, Page 261). However, performance information in regard to this objective was available. Eighty-five percent of the workshop participants received 80% or more of the possible point total on the test. On the basis of this performance, the objective was considered met. Table 3 presents the cumulative percentage distribution of respondents.

TABLE 3

PERCENT OF
HIGHEST POSSIBLE POINT TOTAL
MADE BY CADRE MEMBERS

N=33

Percent of Total Points	Percent of Cadre Meeting Each Level
90	61
80	85
70	94
60	97
50	100

The product objective dealing with the accomplishment of school action plan objectives was not met. All 39 of the participating school groups with cadre representation formulated a written school action plan. At least 52% but no more than 56% of these school groups accomplished the one or two priority objectives of their plan by the scheduled dates. These percentages were below the performance criterion of 80%.

The five process objectives dealt with both the UW-GB and Milwaukee segments of the three-week workshop. One of these objectives dealt with the percentage of workshop sessions perceived by a sample of the participants to have provided much or very much information. The performance criterion of 80% was not met; in the opinion of sampled participants, 70% of the sessions met the performance standard (see Table 4).

TABLE 4

PERCENTAGES OF SESSIONS MEETING INFORMATION LEVEL

N=10

Information Level	Percent of Sessions Meeting Each Level
Very much	50
Much	70*
Some	100

* Criterion was 80

The other four process objectives dealt with the distribution of workshop representation. The teacher cadre consisted of both elementary and secondary teachers from a variety of grade levels and disciplines. The number of disciplines represented at the secondary level, the number of representatives from community agencies in attendance, and the number of Milwaukee Public Schools administrative and supervisory personnel in attendance all equalled or exceeded the established performance criteria.

Discussion and Conclusions

Based upon UW-GB staff perception and the results of the test measuring understanding of environmental concepts, the workshop was successful in meeting component goals. No conclusion is drawn in regard to value changes. Although the objective dealing with value changes was considered met, many respondents had difficulty in stating environmental values and, thus, the results of the instrument designed to measure value changes were difficult to interpret. It is not clear whether these interpretation difficulties stem from deficiencies in the measurement instrument, deficiencies in instructional techniques, unrealistic expectations, or some combination of these or other confounding variables.

Based upon self-evaluation, the number of school groups carrying out their action plans according to their projected schedule was less than the desired performance level. Six groups cited a lack or unavailability of equipment, five groups cited a poorly-functioning school action committee, three groups cited conflict with other activities, and two groups cited poor weather as the reason for not following the design plan. All of these causes for not implementing or completing plans as scheduled are plausible, but most are also, with some effort, preventable.

Four of five process objectives were met. This indicates that the workshop was generally implemented as planned. Because of the small sample used (N = 10) to assess the effectiveness of the individual workshop sessions, readers are cautioned about making inferences based upon such data.

Component 2 - Inservice Workshops

Description

Public and non-public school teachers, administrators, and supervisory personnel had the opportunity to participate in two different types of environmental education inservice workshops during the 1972-73 school year. A ten-session workshop, utilizing instructional television and designed to train teachers with no previous environmental education experience, was conducted during the spring semester. Two Environmental Encounters Workshops, each providing persons previously enrolled in environmental education workshops with an indepth study in an environmental problem area, were conducted during both the fall and the spring semesters.

The two workshops were planned to accomplish the following goals:

- To increase the number of environmentally-aware and knowledgeable teachers in the system
- To develop ecological values
- To acquaint Milwaukee teachers with the wide range of environmental problems facing our own community and the solutions which might be attempted
- To provide an indepth study and training opportunity with respect to environmental problems and solutions

The two Environmental Encounters Workshops provided participants, teachers, supervisors, and administrators the opportunity for indepth study of an environmental problem area. The fall workshop session focused on the solid waste problem, while the spring workshop focused on the energy crisis problem. These workshops were a joint venture between the Environmental Education Project of the Milwaukee Public Schools and the University of Wisconsin-Extension, Environmental Resource Center. Extension personnel provided background information at each of the ten sessions, arranged for guest speakers, and led both discussion and question and answer periods. A field trip was conducted during both the fall and the spring workshop sessions.

The TV Inservice Workshop was conducted during the spring semester. These sessions afforded interested public and non-public school teachers, administrators, and supervisory personnel the opportunity to become aware of the range of local environmental problems and possible solutions. The workshop consisted of ten video-taped sessions under the leadership of cadre members and was presented at three viewing center locations. At each viewing center, cadre members conducted pre-telecast activities and lead post-telecast discussions and activities for each television presentation.

Findings

Table 5 summarizes the evaluation findings for the ten objectives of Component 2. Five of the six product objectives met their performance criteria, and all four process objectives met their performance criteria.

TABLE 5

SUMMARY OF EVALUATION FINDINGS
FOR COMPONENT TWO OBJECTIVES

N=10

Type of Objective	Number of Objectives	Met Criteria	Did Not Meet Criteria
Product	6	5	1*
Process	4	4	0

* Objective 2 (See Page 79)

Two product objectives dealt with the Environmental Encounters Workshops.

After both the fall and the spring workshop sessions, 100% of the workshop participants responding to a rating scale indicated that the workshop was effective in increasing their awareness and knowledge of the environment; developing their ecological values; providing an indepth study and training opportunity; and using appropriate modes of instruction, techniques, and materials. This 100% response exceeded the performance criteria of 70%. Table 6 presents the findings for this objective.

TABLE 6

WORKSHOP PARTICIPANTS' RATINGS OF THE EFFECTIVENESS
OF THE FALL SOLID WASTE AND THE SPRING ENERGY CRISIS WORKSHOPS
IN MEETING THEIR FOUR PRINCIPAL GOALS

N=21

Workshop Goals	*Percent Rating Very Effective		Percent Rating Effective		Percent Rating Small Effect		Percent Rating Not Effective At All		No Response	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Increasing environmental awareness and knowledge	62	33	38	58	0	0	0	0	0	8
Developing of ecological values	24	33	66	63	10	4	0	0	0	0
Providing indepth study and training opportunity	43	25	43	58	14	17	0	0	0	0
Using effective modes of instructions, techniques, and materials	48	33	48	50	5	13	0	0	0	4

* Rounded to nearest whole number

Four of the 25 participants in the Fall Encounters Workshop were in subject areas where environmental education curriculum materials had been distributed. Two of these four teachers responded to a questionnaire and one, 50%, of the respondents indicated that he had used six or more suggestions from the materials. The percentage did not meet the performance criterion of 70%.

Four product objectives dealing with the TV Workshop held during the spring semester were met. Eighty-one percent of the respondents indicated that they had planned or introduced one or more concepts or activities developed in the TV Workshop in their classes or school environment. The criterion was ten percent. Table 7 gives a breakdown of the percentages of respondents that planned to introduce and/or had introduced these concepts into their school activities.

TABLE 7

PERCENTAGES OF RESPONDENTS THAT
PLANNED TO INTRODUCE AND/OR HAD INTRODUCED
ENVIRONMENTAL EDUCATION CONCEPTS DEVELOPED IN THE TV WORKSHOP
INTO THEIR SCHOOL ACTIVITIES

Number of Concepts	Percentage of Respondents That Plan to Introduce Concepts	Percentage of Respondents That Have Introduced Concepts	Percentage of Respondents That Planned to Introduce or Had Introduced Concepts
One or more	45	58	81*
Two or more	23	42	65
Three or more	6	16	45

* Criterion was ten percent

The mean pre and posttest scores on an environmental practices inventory used to assess changes in environmental attitudes were 193.7 and 195.8, respectively, a difference of 2.1. The performance standard specified that the mean pretest score would be higher than the mean posttest score.

In the judgement of program personnel, at the end of the TV Workshop, 71% of the teachers were able to list at least five environmental problems facing the community and one or more environmentally-sound options to the solution of each identified problem. The criterion was 70%.

Of those TV Workshop participants responding to a rating scale, 100% indicated that the workshop was effective in increasing their knowledge of the environment and in acquainting them with the range of environmental problems in Milwaukee and their solutions, 97% indicated that the workshop was effective in developing their ecological values, and 93% indicated that the workshop was effective in the use of modes of instructions, techniques, and materials. These percentages of agreement all exceeded the performance criteria of 70%. Table 8 presents these findings.

TABLE 8

WORKSHOP PARTICIPANTS' RATINGS OF THE EFFECTIVENESS
OF THE TV WORKSHOPS IN MEETING THEIR FOUR PRINCIPAL GOALS

N=31

TV Workshop Goals	*Percent Rating Very Effective	Percent Rating Effective	Percent Rating Small Effect	Percent Rating Not Effective At All	No Response
Increasing environmental awareness and knowledge	45	42	13	0	0
Developing of ecological values	26	58	13	0	3
Acquainting with range of Milwaukee environmental problems and their solutions	39	58	3	0	0
Using effective modes of instructions, techniques, and materials	32	52	10	3	3

* Rounded to nearest whole number

All four process objectives were met. One dealt with the Environmental Encounters Workshop, two dealt with both the Environmental Encounters and the TV Workshops, and one dealt with the TV Workshop.

The Environmental Education Coordinator and the technical assistant cooperatively developed the scope and sequence of the Environmental Encounters Workshop. Program personnel distributed information and enrollment forms in accordance with the performance standard for both the TV and the Environmental Encounters Workshop. The TV Workshop was originally scheduled for fall but was postponed until the spring semester. The attrition rate of Environmental Encounters Workshop participants, 12% in the fall and 14% in the spring, exceeded the performance criterion of 25%. The attrition rate of TV Workshop participants, three percent, also exceeded the criterion.

TV Workshop participants rated the workshop discussion and activity leaders, cadre members, who assisted in pre- and post-workshop activities conducted at three locations or viewing centers. The assigned cadre members were rated as effective discussion or activity leaders on each of six pre-established criteria by at least 84% of the respondents. This percentage exceeded the performance criterion of 80%.

Discussion and Conclusions

Successful compliance with the performance criteria of the process objectives suggests that the Fall and Spring Environmental Encounters Workshops and the Spring TV Workshop were implemented as planned. Based upon the perception of participating teachers, the goals of the Encounters and TV Workshops were also met.

It should be noted that delay in the preparation and distribution of some curriculum materials, developed in the summer curriculum workshop sessions, made the findings for the objective dealing with the use of these materials meaningless. At the time this objective was written, it had been anticipated that all of the curriculum materials, appropriate to the various subject areas represented by workshop participants, would be available. This was not the case. The small number of workshop participants receiving materials appropriate to their subject areas made it impossible to measure what impact the workshop sessions had upon the use of these curriculum materials.

Component 3 - Curriculum Development Workshop

Description

Thirty teachers and eight supervisors took part in a Curriculum Development Workshop held in the summer of 1972. In accord with needs expressed by first-year participants, an orientation/training session to acquaint potential curriculum developers with rationale and techniques was conducted prior to the workshop. At this time, curriculum supervisory personnel and consultants also assisted participants in the review and revision of environmental education concepts identified during the first year. The three-week workshop commenced on July 10th and consisted of four tasks:

1) Integration of environmental education concepts into secondary subject area courses
2) Initial development of an interdisciplinary environmental studies course at the secondary level
3) Integration of environmental education concepts and activities into elementary curriculum at appropriate grade levels
4) Revision of an urban field trip media package for selected elementary levels

The three-week curriculum writing session was designed to accomplish the following goals:

-- To review the identified environmental education concepts upon which a K-12 approach can be based

-- To develop guidelines and initial materials of instruction to integrate environmental education concepts into secondary subject area courses

-- To determine objectives, guidelines, and activities for the initial development of an interdisciplinary environmental studies course for the senior high school

-- To incorporate environmental education concepts and accompanying activities into the existing elementary school curricula at appropriate grade levels

-- To evaluate and revise where necessary the objectives, guidelines, activities, and multi-media materials for a field trip pilot program

Task one groups consisted of secondary curriculum writers divided according to subject area. Each group under the guidance of supervisory personnel prepared a grid depicting the environmental concepts to be integrated into the existing curriculum. Guidelines, instructional activities, and instructional materials were then developed to facilitate the integration of the selected concepts into subject areas. Curriculum guides and materials were written for each of the represented areas - English, Chemistry, Life Science, Home Economics, Social Studies, Math - and were to be distributed to subject area teachers, department chairmen, cadre, and principals.

Task two provided for several teacher participants to develop objectives and guidelines for an Environmental Issues Course. Participants also located or developed instructional materials and resources to be used with the course. The developed guidelines were available to teachers in three secondary schools who pilot-tested the course in Fall, 1972.

Task three provided for elementary curriculum writers under the guidance of supervisory personnel to develop a plan for integrating environmental concepts into appropriate subject areas at the elementary level. Based upon this plan, the elementary writing team developed an interdisciplinary Idea Book for K-6 classes, a social studies unit on urban Milwaukee for grade five, and an addendum to the Elementary Curricula Handbook.

Task four provided for elementary participants to revise and refine the model urban field trip package developed during the 1971 curriculum workshop. The Teachers' Guide and slide-tape series which were parts of the package were revised for continued use in the pre- and post-trip activities at the elementary schools that pilot-tested the total package. The writers attempted to make the field trip an integral part of the "Milwaukee, Our Urban Community" unit.

Findings

Table 9 summarizes the evaluation findings for the twelve objectives of Component 3. Three out of seven product objectives met their established performance criteria, and four out of five process objectives met their established performance criteria.

TABLE 9

SUMMARY OF EVALUATION FINDINGS
FOR COMPONENT THREE OBJECTIVES

N=12

Type of Objective	Number of Objectives	Met Criteria	Did Not Meet Criteria
Product	7	3	4**
Process	5	4	1*

* Objective 11 (See Page 88)
** Objectives 1, 2, 6, and 7 (See Pages 84 and 86)

Of the seven product objectives, two dealt with the Environmental Studies Course at the secondary level, one dealt with the revision of the elementary urban field trip package, and the other four dealt with the integration of environmental education concepts into elementary and secondary school curricula at various grade levels and several subject areas.

One of the two product objectives dealing with the Environmental Studies Course was met. Guidelines for this course were agreed upon during the curriculum workshop and were ready for use by the start of school in the fall. The other objective dealing with the Environmental Studies Course was not met. Two of three teachers pilot-testing the course at the secondary level judged it to be satisfactory and worthy of inclusion into the curriculum. The performance standard was that all teachers pilot-testing this course would judge it to be satisfactory and worthy of inclusion into the curriculum.

The product objective dealing with the urban field trip media package was not met. The field trip media package was revised during the curriculum workshop but was not ready for fall pilot-testing as planned.

Two of the four product objectives dealing with the elementary and secondary curriculum materials were met. Each set of materials was rated by a curriculum supervisor; ratings were given for 16 separate considerations and for an overall total product (see instrument in Appendix A, Page 137). One hundred percent of the writing teams prepared curriculum materials that were rated satisfactory. This percentage exceeded the performance criteria of 90%. During the spring semester, "curriculum specials" with television as the instructional media were used to introduce and explain several developed curriculum materials to teachers. At the secondary level, home economics and English teachers had the opportunity to view "specials", and at the elementary level, teachers had the opportunity to view a "special" dealing with the Oak Ridge Farm Trip (Component 8). Two "specials" in math and an additional "special" in English were developed and taped but will not be aired until Fall, 1973. Teachers were asked to rate the effectiveness of these curriculum specials. All four curriculum specials, two in home economics, one in English, and one on the Oak Ridge Farm Trip, received positive responses from 80% or more of the teachers. This exceeded the performance criterion, 50% of the specials receiving positive responses from at least 80% of the teachers. Table 10 presents results of these ratings.

TABLE 10

RATING OF CURRICULUM SPECIALS
BY TEACHERS VIEWING TELECASTS

Subject Area	Number of Respondents	Percentages* of Respondents Rating Specials				
		Very Effective	Effective	Somewhat Effective	Not Effective	No Response
English	40	0	25	48	13	15
Home Economics						
Junior High	15	7	27	40	7	20
Senior High	27	15	44	30	4	7
Combined	42	12	38	33	5	12
Farm Trip	46	17	41	37	0	4

* Rounded to nearest whole number

The two objectives dealing with effective use of these materials by teachers were not met. By the 15th of March, 78, 31, 30, and 79% of the respondents receiving curriculum materials in chemistry, math, English or language arts, and home economics, respectively, indicated that they were making effective use of these materials. Overall, combining the four subject areas, 44% of the respondents indicated that they were making effective use of these materials. The performance criterion was 70%. At the end of the school year, 83, 100, 66, and 63% of the respondents receiving these curriculum materials in chemistry, math, English or language arts, and home economics, respectively, indicated that they were making effective use of these materials. Overall, combining the four subject areas, 69% of the respondents indicated that they were making effective use of these materials. The performance standard was 80%. Table 11 presents the ratings of the use of these materials.

TABLE 11

TEACHER RESPONDENTS' RATINGS OF
THEIR USE OF CURRICULUM MATERIALS

Use of Material	Percent* of Respondents							
	Chemistry		Math		English		Home Economics	
	March N=7	June N=6	March N=51	June N=9	March N=63	June N=41	March N=28	June N=35
Very Effective	0	0	0	11	0	10	4	0
Effective	57	67	8	11	11	37	36	26
Somewhat Effective	43	17	24	78	19	20	39	37
Not Effective	0	0	2	0	6	2	4	0
No Use	0	17	67	0	63	32	18	37

* Rounded to nearest whole number

Of the five process objectives, one dealt with the integration of environmental concepts into secondary school curricula, one dealt with the integration of environmental concepts into both elementary and secondary curricula, and three pertained to all four workshop tasks. The objective dealing with the secondary task was met as each of nine writing teams prepared the necessary grids, indicating where environmental concepts could be integrated into the existing curricula. The objective dealing with both the elementary and secondary tasks was not met as all curriculum materials were not disseminated by the projected date, December 1, 1972. The curriculum materials were completed during the workshops and judged satisfactory by curriculum supervisors. Two were disseminated by the deadline, two were disseminated after the deadline, and the others are being readied for dissemination. All three objectives dealing with the entire workshop program met their established performance criteria. Representation of workshop participants by grade level and subject area met the established standard. Eighty-eight and 82% of the participants indicated that supervisory personnel and outside consultants, respectively, provided adequate assistance and guidance. These percentages exceeded the respective performance criteria of 70% in both instances (see Table 12).

TABLE 12

EXTENT TO WHICH WORKSHOP PARTICIPANTS
AGREED THAT WORKSHOP PERSONNEL PROVIDED
ADEQUATE ASSISTANCE AND GUIDANCE

Personnel	Percent Strongly Agreeing	Percent Agreeing	Percent Uncertain	Percent Disagreeing	Percent Strongly Disagreeing
Supervisory	27	61	12	0	0
Outside Consultants	6	76	15	3	0

Discussion and Conclusions

Based upon teacher perception, the goal dealing with the Environmental Studies Course was mainly achieved. The urban field trip media package was revised during the curriculum workshop but the unrevised package was used once again in the pilot program. Based upon supervisory personnel judgement, curriculum materials prepared during the workshop were satisfactory; these materials have not all been prepared and distributed to teachers. Based upon participant judgement, supervisory personnel and outside consultants provided adequate assistance and guidance during the workshop sessions. Records indicate that grids and curricular materials were prepared in accordance with performance standards.

Based upon these findings, the workshop was successful in meeting its immediate goals. Delay in preparation of materials for dissemination made it difficult to assess how effectively these materials were used. Preliminary findings indicate that the program was not entirely successful in the integration of prepared curriculum materials into elementary and secondary curricula; however, delay in the dissemination of materials and the small percentage of teachers returning the end-of-year questionnaire indicate that these findings are not conclusive.

Component 4 - Open-End Grant Program

Description

The two segments of this component gave students the opportunity to apply their knowledge of environmental education to the solution of real problems. These segments consisted of a mini-proposal program for elementary and secondary students and an instrumentation program for secondary students only.

The Open-End Grant Program has the following goals:

-- To set up a vehicle through which students can obtain money and/or assistance for innovative constructive environmental education projects

-- To assist the school, cluster, or community with local environmental problems through open-ended projects

-- To give students experience in the process of how money is obtained for beneficial programs in an urban community

-- To set up a vehicle that will give students a voice and means to solve or alleviate their cluster and/or city-wide environmental problems

-- To set up a vehicle that will teach responsibility and accountability when an action project is planned and implemented

Under the Mini-Proposal Program, school action committees at the secondary level and elementary schools through an environmental education advisor wrote proposals requesting funds for environmental action projects. Guidelines for proposal writing, submission, review, and acceptance were formulated by a review committee. These guidelines were contained in a Mini-Proposal Handbook sent to all public and non-public school principals. Student and teacher cadre provided leadership for proposal development at the local level. The teacher cadre as well as other teachers served as advisors to students developing proposals at the school or cluster level.

The Review Committee, consisting of cadre, students, administrative, parent, and community representatives, regularly reviewed submitted proposals that had received cluster Environmental Education Committee approval. The Review Committee recommended funding of proposals in accordance with procedures and criteria established at its first meeting in the fall. If a school action group or elementary school submitted a proposal that was not recommended for funding, the Review Committee advised the submitting school or group of the reasons for not recommending funding. These groups, if they desired, modified or revised their proposals and re-submitted them for review.

Proposals approved by the Review Committee were then submitted to a central office inter-divisional review board, and those reviewed by this board were sent to the Executive Director of the Department of Elementary and Secondary Education for final approval. Projects funded dealt with such topics as a Milwaukee River Study, an Air Pollution Monitoring Station, Humanities as an Aid to Environmental Education, and a trip to the 19th National Conference of the Conservation Education Association, the making of a film called "We Can Make It Happen", and the Study of Noise and Particulate Matter Pollution. See Appendix B for a complete list of mini-proposals.

Instrumentation proposals were submitted by secondary school action groups. These proposals outlined procedures for attacking specific environmental problems and the most innovative were funded. The designs of selected proposals were to serve as city-wide models. Receiving funding this year were three instrumentation proposals, an auto-emission check test lane, a study of pollution in Wisconsin waterways, and a determination of asbestos levels in the air supply adjacent to a local community.

Findings

Table 13 summarizes the evaluation findings for the 14 objectives of Component 4. Two out of the four measured product objectives were met; one product objective was not measured. Seven out of the nine process objectives met their established performance criteria.

TABLE 13

SUMMARY OF EVALUATION FINDINGS
FOR COMPONENT FOUR OBJECTIVES

N=14

Type of Objective	Number of Objectives	Met Criteria	Did Not Meet Criteria	Not Measured
Product	5	2	2*	1**
Process	9	7	2***	0

* Objectives 1 and 4 (See Pages 89 and 90)
** Objective 3 (See Page 89)
*** Objectives 10 and 11 (See Pages 92 and 93)

Three product objectives dealt with mini-proposals, and two dealt with the instrumentation program. One product objective dealing with the mini-proposal program was not measured. The sponsor of the mini-proposal involving ten elementary schools indicated that the proposal design was still being carried out since proposal activities were begun behind schedule due to the late arrival of supplies.

One of the two measured product objectives dealing with the mini-proposal program was met. Eighty-five percent of the secondary students responding to a questionnaire indicated that the mini-proposal program gave them a voice and means to solve or alleviate environmental problems, exceeding the performance criterion of 80%. The responses of mini-proposal sponsors to an audit questionnaire indicated that 67% of the school action committees with funded proposals carried out 75% or more of their design. The performance criteria was 80% of the recipients would carry out 75% of their designs.

One of the two product objectives dealing with the instrumentation program was not met. The number of students voluntarily offering their services to assist in the implementation of instrumentation proposal designs was less than expected. One school far exceeded the expectation, 25 students, while the other school fell short of the expectation. The objective that was met dealt with the implementation of proposal designs. Both secondary school sponsors of instrumentation proposals indicated that 85% or more of their proposal designs were carried out. This complied with the performance standard.

The process objectives dealt with both the mini-proposal and instrumentation programs. A review committee was organized, consisting of students, cadre, administrators, parents, and community groups and agencies, and established procedures for proposal writing, submission, review, and funding. These procedures were outlined in a handbook and distributed in accordance with the performance criteria. The mini-proposal handbook served as a guide for instrumentation proposals as well, although a supplement was distributed to outline a few minor differences in submittal procedures. Invitations to participate in the mini-proposals and instrumentation programs were distributed in accordance with the established criteria. The Review Committee met monthly to review submitted proposals and to make recommendations regarding funding. Both mini-proposals and instrumentation proposal programs were awarded funds. When proposals were not funded, the reasons were documented in writing. Fifteen secondary schools submitted mini-proposals, exceeding the established performance criterion of eight. Thirteen of the elementary schools, ten percent, have submitted mini-proposals for funding. The performance criterion was ten percent. Review of the instrumentation proposals revealed that all three proposal groups voiced a concern for the environmental degradation that exists in the Milwaukee area, meeting the performance criteria.

Responses to a report form indicated that 52% of the secondary schools had organized school action groups that held at least one monthly meeting in eight or more months. Table 14 presents a cumulative distribution of the percentage of schools holding at least one monthly meeting in six or more months.

TABLE 14

PERCENTAGES OF SCHOOL ACTION COMMITTEES
HOLDING AT LEAST ONE MEETING
IN SIX OR MORE MONTHS

N=29

Number of Months	Percentage Meeting Each Level
10	24
9	38
8	52*
7	52
6	59

* Criterion was 80

Discussion and Conclusions

The available information indicates that the Open-End Grant Program has been organized and is generally functioning in a manner consistent with the established performance criteria outlined in the process objectives. The two process objectives that were not met dealt with participation not the smooth operation of the program. The number of schools holding regular meetings of secondary school action committees was less than the expectation. The Review Committee met nine of ten months, missing one monthly meeting. In the month the board did not meet, the board members, at the Environmental Education Coordinator's request, submitted in writing any concerns of their respective divisions in regard to proposals recommended for funding.

Many of the school groups receiving funding for their proposals completed their designs as scheduled; the percentage of recipients completing their designs as scheduled was, however, less than the expectation. Reasons cited, by more than one group, for failure to complete the designs as scheduled included delay in receiving equipment (seven times), weather conditions (three times), and lack of student participation (two times). Some of these causes, student participation in particular, appear to be preventable.

On the whole, the mini-proposal program functioned smoothly and most of the projects were implemented and completed as planned. Increased student involvement at the school level and more careful planning of proposal activities would improve the operation of the program.

Component 5 - Field Trip Pilot Project

Description

The Field Trip Pilot Program consisted of an elementary and a secondary project. Through on-site experiences, the Elementary Field Trip Project attempted to increase student awareness of the local environment and their relationship to it, of changes in the local environment, and of the causes and consequences of environmental changes. The secondary project enabled students to plan and develop a field trip of their choice; these field trips were designed for the study of ecological interrelationships unique to the site visited.

The Field Trip Pilot Program has the following goals:

-- To involve secondary students in the planning of field trip programs and/or site development at four locations: Hawthorne Glen, Potter Forest, the Demonstration Farm, and a Model Cities Neighborhood playground

-- To expose secondary students to these environments and see what ecological implications the different environments have for their own neighborhood

-- To develop a model urban field trip package for selected elementary grade level or levels

-- To expand the piloting of the urban field trip package in the Milwaukee Public Schools and the non-public schools

Seventy classes, 26 of them from the Model Cities Neighborhood, participated in the Elementary Field Trip Pilot Project. The urban field trip package developed in the summer curriculum workshop (Component 3) served as a guide for pre-trip, on-trip, and post-trip activities. Pre-trip media materials, including a slide/tape presentation, were used to motivate students, to explain the trip's purpose, and to highlight certain aspects of what students will be observing on the trip. A Field Trip Guide described the trip route and offered suggestions for on-trip activities. Post-trip media materials were available to participating teachers, enabling them to review and extend concepts developed during and after the trip. Although the field trip package was designed to be used independently by classroom teachers, a consultant was employed to conduct pre-trip orientation sessions for both teachers and pupils, to serve as a guide on the trips, and to provide input for program improvement. The trip included visits to Martin Luther King Park, the Civic Center, Wisconsin Electric Power Plant, the Milwaukee Harbor area, and the Model Cities Neighborhood with additional observations on route.

The secondary project commenced during the fall semester. Secondary school action committees planned, developed, and conducted field trips of their choice under guidelines outlined by the Environmental Education Coordinator and the technical assistant. During the school year, nine School Action Committees were included in 13 field trips studying ecological interrelationships unique to the site visited. Resource people were available at the trip sites to explain these interrelationships. Following the field trips, students were asked to give suggestions for site development and use. Field trips dealt with the urban area, solid waste disposal, vehicle safety and emissions, the natural environment, water resources, forest products, and energy resources.

Findings

Table 15 summarizes evaluation findings for the 11 objectives of Component 5. All six product objectives were met, and three of the four measured process objectives were met. One process objective was not measured.

TABLE 15

SUMMARY OF EVALUATION FINDINGS
FOR COMPONENT FIVE OBJECTIVES

N=11

Type of Objective	Number of Objectives	Met Criteria	Did Not Meet Criteria	Not Measured
Product	6	6	0	0
Process	5	3	1*	1**

* Objective 9 (See Page 99)
** Objective 7 (See Page 98)

Of the six product objectives, three dealt with the Elementary Field Trip Pilot Program and three dealt with the Secondary Field Trip Pilot Program. All three objectives dealing with the Elementary Field Trip Program were met.

For the fall semester, students participating in the Elementary Field Trip Pilot Program showed an improved understanding of the urban environment by having a higher mean posttest score (8.2) than mean pretest score (6.2) on an instrument designed to measure environmental concepts. Distributions of these pre and posttest scores are presented in Table 16.

For the spring semester, students participating in the Elementary Field Trip Pilot Program again showed a higher mean posttest score (10.2) than mean pretest score (7.7).

TABLE 16

DISTRIBUTION OF THE
FALL URBAN FIELD TRIP
PRE AND POSTTEST SCORES

Pre, N=1,518
Post, N=1,479

Score	Frequency		Percent		Cumulative Frequency		Cumulative Percent*	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
20	0	0	0.0	0.0	0	0	0	0
19	0	0	0.0	0.0	0	0	0	0
18	1	4	.1	.3	1	4	0	0
17	3	19	.2	1.3	4	23	0	2
16	4	27	.3	1.8	8	50	1	3
15	6	53	.4	3.6	14	103	1	7
14	12	57	.8	3.9	26	160	2	11
13	19	74	1.3	5.0	45	234	3	16
12	26	90	1.7	6.1	71	324	5	22
11	50	94	3.3	6.4	121	418	8	28
10	94	112	6.2	7.6	215	530	14	36
9	109	139	7.2	9.4	324	669	21	45
8	147	126	9.7	8.5	471	795	31	54
7	160	135	10.5	9.1	631	930	42	63
6	197	159	13.0	10.8	828	1,089	55	74
5	221	133	14.6	9.0	1,049	1,222	69	83
4	191	104	12.6	7.0	1,240	1,326	82	90
3	143	69	9.4	4.7	1,383	1,395	91	94
2	77	43	5.1	2.9	1,460	1,438	96	97
1	33	18	2.2	1.2	1,493	1,456	98	98
0	25	23	1.6	1.6	1,518	1,479	100	100

* Rounded to nearest whole number

Following the field trip, teachers were asked to distribute to each student in their classes a copy of the list of suggested tasks. To measure the objective regarding voluntary student participation in these suggested post-trip tasks, a questionnaire was sent to teachers. Tabulation of teacher questionnaire responses indicated that 87% of the students in the fall and 63% of the students in the spring voluntarily began one or more task suggestions, exceeding the established performance criteria of 30%. Teachers participating in the elementary program were asked to rate the Urban Field Trip Media Package. For both the fall and spring programs, user ratings of the package (slide-tape presentation, teacher's guide, and a kit of related materials) exceeded the established performance criteria of 70%. In the fall, all users rated the teacher's guide and the kit of related materials as effective in the environmental instruction of pupils, and 98% of the users rated the slide-tape presentation as effective in the environmental instruction of pupils (see Table 17). In the spring, 94%, 89%, and 98% of the teachers rated the teacher's guide, the kit of related materials, and the slide-tape presentation, respectively, as effective in the environmental instruction of pupils (see Table 17).

TABLE 17

RATING OF URBAN FIELD TRIP TEACHING AND RESOURCE MATERIALS BY PARTICIPATING TEACHERS

Item	Number of Teachers Using	Rating					Effective		
		Excellent	Good	Fair	Poor	No Response	Yes	No	No Response
FALL (N=49):									
Slide Tape Presentation	47	39	7	0	1	0	45	1	1
Teacher's Guide	46	25	21	0	0	0	46	0	0
Kit of Related Materials	26	13	7	0	0	6	21	0	5
SPRING (N=53):									
Slide Tape Presentation	52	20	22	8	0	2	51	1	0
Teacher's Guide	50	26	23	1	0	0	47	3	0
Kit of Related Materials	36	22	7	3	0	4	32	4	0

The three product objectives dealing with the Secondary Field Trip Pilot Program were met. Groups participating in these pilot trips submitted to the coordinator a list of suggestions for site development and use and a list of field trip activities performed after the trip. Following each secondary trip, tests measuring knowledge of environmental relationships unique to the site visited were administered to participating students.

One hundred percent of the field trip groups responding to a survey form indicated that they had performed at least one activity related to the field trip and were able to make at least two environmentally-sound suggestions for site development and use. These percentages exceeded the performance criteria of ten percent and 70%, respectively.

After the secondary field trip experience, participating students were asked to complete a ten-item test designed to measure their understanding of ecological interrelationships unique to the site visited. Seventy-nine percent of the participants who took the test were judged by program personnel to have correctly answered at least seven test items. This exceeded the performance criterion of 70%.

Of the five process objectives, two dealt with the Elementary Field Trip Pilot Program, one dealt with the Secondary Field Trip Pilot Program, and two dealt with both the Elementary and Secondary Pilot Programs.

One objective dealing with the rating of the Elementary Field Trip Media Package was not measured because the field trip media package is still in the process of being revised or finalized. The other objective dealing with the Elementary Field Trip Pilot Program was met, as 26 elementary schools serving the Model Cities Neighborhood participated in the pilot program. The performance standard was 20 schools.

The two process objectives dealing with both the Elementary and Secondary Field Trip Pilot Programs were met. The Environmental Education Coordinator has employed a qualified consultant on all elementary field trips and for five of the 13 secondary field trips. A qualified consultant was thus present on 90% of the elementary and secondary field trips, the performance criterion. Teachers are required to participate on all elementary field trips, and substitute teachers are employed to cover classes for trip sponsors on the secondary pilot trips. Thus, the teacher participation performance criterion, having the teacher present and participating in field trip experiences 85% of the time, was exceeded.

The process objective dealing with the Secondary Field Trip Pilot Program was not met. Three of the ten secondary groups participating in the program visited two or more sites. This was below the performance criteria of at least 18 groups visiting two or more sites.

Discussion and Conclusions

The revised media package is not yet in use; however, the Elementary Field Trip Pilot Program functioned effectively with the present package meeting all three product objectives. Students in selected classes participated in post-trip activities and media package materials were generally used and rated as effective instructional aids. The results of the field trip pre and posttests indicated that participating students gained knowledge from the trip experiences. The trip guide and participating teachers provided input for further package revisions and trip improvement.

The Secondary Field Trip Pilot Program started slowly due to the heavy workload of project personnel. Fewer secondary trips were planned and conducted than anticipated. Trips conducted were generally successful in meeting all the product objectives.

Component 6 - Student Involvement Program

Description

The Student Involvement Program consisted of two parts: a summer school workshop in environmental issues and a student leadership development workshop. These programs gave secondary students the opportunity to acquire knowledge and skills making them more effective in environmental education leadership roles within their respective schools or school action committees.

The goals of this component follow:

-- To increase the number of students who are knowledgeable about their environment

-- To help students develop sound ecological values

-- To provide students with sufficient information to heighten their awareness of the range of environmental problems facing our community and the options available for the solution of these problems

-- To develop a cadre of students with the knowledge and skill to identify and factor problems and follow through with cooperative planning for action programs

A three-week workshop in environmental issues, offered to public and non-public school secondary students, was held at two high schools in the Summer of 1972. Participating students studied environmental problem areas utilizing television presentations, laboratory experiences, field trips, planning sessions and discussion sessions with professors, community leaders, politicians, city and county officials, and other specialists. Experience gained from implementation of this workshop aided the development of a semester-long course in environmental issues which was pilot-tested at the secondary level during the regular school year.

Following this summer school workshop, 60 students spent two additional weeks in leadership development training activities. The first week of the two-week program consisted of a five-day workshop at UW-GB. Student participants had the opportunity to develop leadership skills through discussion, planning, and problem-solving sessions. The second week's program consisted of planning and organization activities for the students as well as for the experienced and newly-trained teacher cadre. School action plans for represented secondary and elementary schools were cooperatively developed at those sessions. This selected group of student participants constituted a student cadre; these student cadre members functioned in leadership roles within their respective schools and school action committees and in other project activities.

Findings

Table 18 summarizes the evaluation findings for the eight objectives of Component 6. Two of the six product objectives met their established performance criteria. Both process objectives met their performance criteria.

TABLE 18

SUMMARY OF EVALUATION FINDINGS
FOR COMPONENT SIX OBJECTIVES

N=8

Type of Objective	Number of Objectives	Met Criteria	Did Not Meet Criteria
Product	6	2	4*
Process	2	2	0

* Objectives 2, 3, 5, and 6 (See Pages 101-103)

Of the six product objectives, two dealt with the Environmental Issues Workshop and four dealt with the Student Leadership Development Workshop. One of the two objectives dealing with the Issues Workshop was met. In the opinion of the two program personnel evaluating questionnaire responses, 78% of the students attending the Environmental Issues Workshop identified five or more environmental problem areas and suggested reasonable approaches to these problems. This percentage exceeded the established performance criterion of 70%. Table 19 presents the rating distributions.

Based upon the responses of cadre members, 59 of 92 workshop participants were identified by cadre members as attending a Milwaukee secondary school during the school year. Seventy-six percent of these 59 students were reported by cadre members as being constructively active in one or more environmental activity in their schools. The performance criterion was 80%.

One of the four objectives dealing with the Leadership Workshop was met. Sixteen school groups were present at the Student Leadership Development Workshop. Participating groups worked on both cluster and school action plans. All 16 school groups had approved school action plans. Thus, 100% of the school groups developed an approved plan of action for their schools; this figure exceeded the 70% performance criterion. Based upon the responses of student and faculty cadre members, 43% of 14 respondents indicated that their school group accomplished, by the scheduled dates, the priority objectives of the plan of action they formulated at the workshop. The performance criteria was 80%.

TABLE 19

PROJECT PERSONNEL'S RATING OF REASONABLENESS OF STUDENTS' SOLUTIONS TO AT LEAST FIVE ENVIRONMENTAL PROBLEMS

N=79

Rater	Agreement		Disagreement		Total	
	Meeting Criteria	Not Meeting Criteria	Meeting Criteria	Not Meeting Criteria	Meeting Criteria	Not Meeting Criteria
1	58	13	4	4	62	17
2	58	13	4	4	62	17

Based upon the responses of cadre members, 41 of 47 Leadership Workshop participants were identified as attending a Milwaukee secondary school the past school year. Fifty-one percent of these 41 students were reported by cadre members to have played leadership roles in one or more environmental activity in their schools. The performance criteria was 90%. The city-wide student cadre did not develop an environmental plan; this group did hold three meetings and planned two city-wide activities, a recycling drive and a symposium.

Both process objectives met their established performance criteria. One dealt with the Environmental Issues Workshop and the other dealt with the Student Leadership Development Workshop. Eighty-nine percent of the students responding to a questionnaire indicated that the Environmental Issues Workshop increased their awareness of the range of environmental problems facing the community. This percentage exceeded the performance criterion of 80%. Table 20 presents the response distribution. Ninety-one percent of the students responding to a questionnaire indicated that the Student Leadership Workshop was effective in transmitting the information and providing the experiences necessary to enable them to serve as environmental leaders in their schools.

This percentage exceeded the established performance criterion of 80%. Table 21 presents the response distribution.

TABLE 20

EXTENT TO WHICH PARTICIPANTS AGREED THAT
THE ENVIRONMENTAL ISSUES WORKSHOP INCREASED
AWARENESS OF ENVIRONMENTAL PROBLEMS FACING COMMUNITY

N=81

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	No Response
33	38	4	3	2	1

TABLE 21

DISTRIBUTION OF RESPONSES TO THE
LEADERSHIP WORKSHOP EFFECTIVENESS QUESTIONNAIRE

N=53

Very Effective	Effective	Uncertain	Ineffective	Very Ineffective	No Response
21	21	3	0	1	7

Discussion and Conclusions

Based upon student perception and performance, both workshops appear to have been successful in meeting component goals. Students in both workshops gained in knowledge and awareness of environmental problems, and, based upon student perception, the Leadership Workshop participants gained leadership skills. All Leadership Workshop participants formulated school action plans during the workshop; about half of these plans were not carried out on schedule. Based upon student and cadre perception, the component was not as successful in meeting the goal dealing with student activities subsequent to the workshop as it was in meeting the goals relating to workshop activities. According to cadre perception, Leadership Workshop participants were not functioning to the extent desired in leadership roles in school environmental activities, and the number of school groups completing their action plans as scheduled was lower than expected. The city-wide student cadre met three times during the year, although formulating no formal action plan.

Based upon cadre perception, Environmental Issues Workshop participants were constructively active in environmental activities to an extent only slightly less than the goal. Due to the large number of unidentified participants, these results are inconclusive. It is safe to say that Environmental Issues Workshop participants' activity in environmental activities was, if not at the expected level, close to the expected level.

Component 7 - Exceptional Education/Handicapped Program

Description

This component was comprised of two parts, an academic program and a camping program. Both parts endeavored to change the physical and social environments of emotionally-disturbed junior high school boys; that is, providing an educational environment where changes can take place.

The goal of this program is to help the participating student to acquire the knowledge, understanding, attitudes, and skills requisite to surviving and thriving within our cultural and physical environments. A major premise employed here is that factual knowledge, pragmatic understanding, and actualized skills affect attitudes positively. Another major premise is that the attitude of caring for the environment is critical to taking care of it.

The Department of Exceptional Education provided two classes for emotionally-disturbed junior high school boys at the LaVarnway Center of the Milwaukee Boys' Club. Two teachers presented traditional curricula supplemented with the integration of ecological topics at appropriate times; instructional materials especially designed for that purpose were utilized. A social worker was available for group and individual counseling sessions. Recreational and lunchroom activities constituted a major emphasis in the LaVarnway program. These activities were used as additional opportunities for educational and social development.

A camping experience afforded students the opportunity to interact and study ecology and conservation in an outdoor setting. The camping experience, two weeks in the fall and three in the spring, combined regular school work and planned ecological activities. The regular LaVarnway staff participated in daytime activities at the camp site which is located near Merton, Wisconsin. Camp counselors were employed enabling each cabin to have a night-time counselor. Students participated in such small group activities as tree planting, apple picking, picking up litter, landscaping, and an overnight canoeing/camping experience.

Students attending the center were selected in accordance with an established referral, screening and selection procedure which included an evaluation by a psychologist. Selected students participated willingly with parental consent and successfully completed a two-week trial period before becoming full-time students in the LaVarnway Center Program.

Findings

Table 22 summarizes the evaluation findings for the 19 objectives of Component 7. Five of the nine measured product objectives met their established performance criteria. One product objective was not measured. Six of the nine process objectives met their performance criteria.

TABLE 22

SUMMARY OF EVALUATION FINDINGS
FOR COMPONENT SEVEN OBJECTIVES

N=19

Type of Objective	Number of Objectives	Met Criteria	Did Not Meet Criteria	Not Evaluated
Product	10	5	4*	1**
Process	9	6	3***	0

* Objectives 2, 3, 4, and 8 (See Pages 105-107)
** Objective 9 (See Page 107)
*** Objectives 17, 18, and 19 (See Pages 111 and 112)

Of the ten product objectives, two dealt with the camping experience, six dealt with the regular LaVarnway program, and two dealt with both the camping experience and the regular LaVarnway program.

One of the two objectives dealing with the camping experience was met. Ninety percent of the ten students surveyed after the camping experience identified at least three ecological problems suggested by study at the camp site. This percentage exceeded the 70% performance criteria. At the end of the spring camping sessions, 22% of the students were able to give two or more solutions to each of the problems they had identified the previous fall. The performance criterion was 70%.

Three of the five measured product objectives dealing with the LaVarnway program were met. The objective dealing with student volunteers for lunchroom duty could not be measured because the participation records were lost. During the fall semester, however, 82% of the students volunteered two or more times to help with serving lunch and clean-up. The percentage, at that time, exceeded the 80% performance criterion. At that time, students enrolled at the center before November 31, 1972, were used for reporting purposes.

One of three product objectives dealing with student achievement was met. Sixty-two percent of the students enrolled in the program for eight months or more showed a gain of at least five months in mathematics, exceeding the performance criterion of 60%. Thirty-one percent of these same students showed a gain of at least five months in reading comprehension and recognition. The performance criterion was 60%.

Two product objectives dealing with pupil attendance were both met. All three Milwaukee Public Schools students who were enrolled in the program last year and returned to the regular classroom in September, 1973, remained in the regular classroom for the school year. The average daily attendance for pupils in the program, 80%, was greater than the average daily attendance, 78%, for the three junior high schools within the Model Cities Neighborhood.

One of the two objectives dealing with both the camping and the regular LaVarnway program was met. At the end of both the fall and the spring semesters, interviews with randomly-selected students indicated that students generally held positive attitudes toward the LaVarnway program, classroom atmosphere, classroom learning, lunchroom environment, and individual counseling (see Table 23 and Table 24).

TABLE 23

JUDGES' RATING OF LAVARNWAY STUDENT ATTITUDE TOWARD SCHOOL ENVIRONMENT AT THE END OF THE FALL SEMESTER

N=15

Area Rated	Ratings			
	Judge 1		Judge 2	
	Positive	Negative	Positive	Negative
Classroom Environment	11	4	10	5
Classroom Learning	12	3	10	5
Lunchroom Environment	10	5	11	4
Camping Experiences*	6	1	6	1
Individual Counseling	11	4	11	4
Overall	13	2	11	4

* Eight of the students interviewed did not attend camp.

TABLE 24

JUDGES' RATING OF LAVARNWAY
STUDENT ATTITUDE TOWARD SCHOOL ENVIRONMENT
AT THE END OF THE SPRING SEMESTER

N=14

Area Rated	Number of Judgements Positive	Number of Judgements Negative
Classroom Environment	11	3
Classroom Learning	12	2
Lunchroom Environment	9	5
Camping Experiences	10	4
Individual Counseling	12	2
Overall	11	3

Twenty-three percent of the program students were judged by at least three of the four program staff members to have demonstrated improved social interaction with their peers during the program year, through reference to anecdotal records. The criterion was 60% (see Table 25).

TABLE 25

EXTENT OF TEACHER AGREEMENT THAT PROGRAM STUDENTS DEMONSTRATED IMPROVED SOCIAL INTERACTION WITH PEERS

Number of Teachers in Agreement	Percentage of Students Meeting Each Level
4	12
3	23*
2	46
1	73
0	100

* Criterion was 60%

Six of the nine process objectives were met. Four of them dealt with the camping experience; these four were all met. Camping activities began on the scheduled dates. Review of staff records indicated that student participation in both the fall and the spring camping activities exceeded expectations. After the fall camping session, the camp staff submitted a list of suggestions for changes in the camp program. Following both the spring and the fall camping sessions, a list of successful camp operations was submitted to the program administrator. In all cases, the number of suggestions and observed successes exceeded the expectations.

Two process objectives dealt with the number of students enrolled in the LaVarnway program; these two objectives were met. Fifteen students were enrolled in the program by October 15. Thirty students were enrolled in the program by the end of the first semester. Ten of these were on a trial basis at that time. Subsequently, four students voluntarily left the program; the year ended with 26 students officially enrolled at the LaVarnway Center.

Two process objectives dealing with staff/parent conferences and one dealing with program director reports to the Environmental Education Coordinator were not met. Program teachers did not meet at least three times during the school year with the parents of each student and the program social worker did not meet at least two times each semester with the parents of each enrolled student. The project director did not submit monthly reports of program activities to the Environmental Education Coordinator during the first semester; monthly reports were submitted during the second semester.

Discussion and Conclusions

Camping experiences were generally successfully carried out. The process objectives dealing with the camping activities were all met, indicating that the camping experience was initiated as planned and that the staff analyzed strong and weak aspects of the camping program. Based upon student and staff perception, most camping experiences were successful. Student participants took part in the desired activities and were able to identify ecological problems associated with the camp site but had difficulty in giving solutions to these problems. Based upon interviews, students generally expressed positive attitudes toward the camping experience.

The regular LaVarnway program met four of seven product objectives. The program successfully met or exceeded expectations in regard to mathematics achievement and average daily attendance, while based upon random interviews, students generally expressed positive attitudes toward their classroom, learning, and lunchroom environments and individual counseling. Student progress in reading was less than expected, and based upon staff perception, progress in student/peer relationships was below expectation.

Failure of the regular LaVarnway program to meet three of five process objectives seems to indicate that more careful attention should be given to program process. The number of students enrolled at the center by the specified dates was met; this level of enrollment, 30 students, was not, however, maintained during most of the second semester. Only 26 students were enrolled in the program at the end of the school year. Staff members did not hold the expected number of parental conferences and the program director did not submit monthly reports to the Environmental Education Coordinator as frequently as expected.

Failure to maintain adequate records contributed to not meeting the process objectives dealing with staff/parental conferences, and made it impossible to measure the product objective dealing with the percentage of students volunteering to assist with lunch preparation and clean-up activities. Based upon interviews with program staff, it appeared that staff/parental conferences, in addition to those recorded, were held. During the first semester, the percentage of students volunteering for lunch duty met the expectation. However, records of this participation as well as second-semester participation were lost. Failure of staff members to maintain or provide the aforementioned records made it impossible to accurately assess performance in regard to these objectives.

Component 8 - Demonstration Farm Pilot Program

Description

This component is divided into two segments: The Productivity of the Land, for grades four to six, and A Visit to the Farm, designed for kindergarten through third grade. Each segment includes a visit to a 100-acre demonstration farm near Dousman, Wisconsin. The farm includes two houses, two silos, a milk house, a windmill, a spring, machine sheds, a barn and other animal buildings. Students participating in the program are bussed to the farm. At the site, a guide introduced the students to ecological interrelationships that exist in the farm environment.

The goals for the Productivity of the Land segment were:

- -- To develop a perceptual awareness of the need for a planned environment as related to sustained productivity of the land
- -- To understand the ecological relationship between the soil, plants, animals, and man
- -- To apply the knowledge and skills gained through this farm experience to the local urban school and home environments
- -- To gain an appreciation of land productivity through the participation in the planting and harvesting of farm and garden crops

The goals for the A Visit to the Farm segment were:

- -- To reinforce and expand the student's present knowledge of a farm and farm life
- -- To extend the student's environmental awareness to a rural area
- -- To deepen the student's understandings of the production and use of farm products

Twenty-six classes, 12 from Model Cities Schools and three from non-public schools, participated in the Fall Demonstration Farm Program. Eleven classes participated in the A Visit to the Farm segment while the other 15 classes took part in the Productivity of the Land segment. Twenty-nine classes, 15 from Model Cities Schools and seven from non-public schools, participated in the Spring Demonstration Farm Program. Fourteen classes participated in the A Visit to the Farm segment while fifteen classes took part in the Productivity of the Land segment.

Students participating in the Productivity of the Land segment take part in such activities as preparation of the ground for planting (spring), cultivating, fertilizing, and harvesting (fall). They also study the care and conservation practices utilized for better production of crops and make general observations regarding rural living and the raising of farm animals. Students participating in the A Visit to the Farm segment took part in such activities as observing farm animals, crop planting (spring), crop harvesting (fall), and soil conservation demonstrations. In the spring, students receive sample seeds, soil, and planters for home or classroom planting. In both segments, daily activities vary with seasonal changes.

Findings

Table 26 summarizes the evaluation findings for the nine objectives of Component 8. Five of the seven product objectives met the established performance criteria. Both process objectives were not met.

TABLE 26

SUMMARY OF EVALUATION FINDINGS
FOR COMPONENT EIGHT OBJECTIVES

N=9

Type of Objective	Number of Objectives	Met Criteria	Did Not Meet Criteria
Product	7	5	2*
Process	2	0	2**

* Objectives 4 and 6 (See Pages 115-118)
**Objectives 8 and 9 (See Pages 119-120)

Of the seven product objectives, four dealt with the Productivity of the Land segment, two dealt with the A Visit to the Farm segment, and one dealt with both segments.

The two product objectives dealing with the A Visit to the Farm segment were met for both the fall and the spring semesters. One hundred percent of the participating teachers indicated that they believed the field trip made their students more knowledgeable of the working farm and the farmer's role in today's society and more aware of the rural environment. For the fall and spring semesters, 83 and 100%, respectively, of the participating teachers indicated that they believed the field trip provided their students with a greater understanding of farm products and farm production methods. The performance criterion in each case was 75%. One hundred percent of the responding teachers felt that the A Visit to the Farm segment should be included in their classroom unit on farming, exceeding the performance criterion of 75%.

The product objective dealing with both segments of the program was met. During the 1972-73 school year, 87% of the participating teachers who submitted written trip expectations indicated that, in general, their expected outcomes had been attained. The performance criterion was 75%.

One of the four product objectives dealing with the Productivity of the Land segment was met for both the fall and spring semesters. The results of a paper and pencil test administered after the farm trip indicated that students had knowledge of human dependence on the rural environment. For the fall and spring semesters, 82 and 83% of the students, respectively, completing the test received a score of at least 70%. These percentages exceeded the performance criterion, 75% to receive a score of at least 70%. Table 27 presents the distributions of test scores for the fall and spring trips.

TABLE 27

PERCENT OF CORRECT RESPONSES
MADE BY STUDENTS ON PAPER AND PENCIL TEST

Spring, N=257
Fall, N=251

Percent of Correct Responses	Percent of Students Meeting Each Level Fall	Spring
100	24	24
90	45	49
80	64	67
70	82*	83*
60	94	89
50	99	95

* Criterion level achievement

One of the three remaining product objectives dealing with the Productivity of the Land segment was met for the 1972-73 project year. None of the three objectives was met for the fall semester, but two of the objectives were met for the spring semester. In the fall, all teachers surveyed indicated that they had not planted a classroom garden, while in the spring, 81% of the teachers surveyed indicated that a classroom garden had been planted. Overall, 53% of the classes surveyed had planted a classroom garden. This percentage was below the criterion percentage, 75%. Based upon teacher response to a questionnaire, four point four percent of the students participated in small group activities during the fall semester, and 32% of the students participated in small group activities during the spring semester. Both percentages were below the performance criterion of 85%. During the fall semester, survey results indicated that eight percent of the students participated in planting activities at their school or in their community, while during the spring semester, 85% of the students participated in such planting activities. Overall, spring and fall combined, 52% of the responding students indicated that they had participated in a planting activity. This percentage exceeded the performance criterion of 35%.

Neither of the two process objectives were met. The program supervisor submitted monthly reports to the Environmental Education Coordinator for three months when the Environmental Education Demonstration Farm Program was in operation. The farm was in operation five months, September, October, March, April, and May. The other process objective was not met in its entirety.

Of the 55 classes participating in the two segments of the Farm Program during the fall and spring semesters, 45% participated in the A Visit to the Farm segment and 55% participated in the Productivity of the Land segment. Participation criteria specify that these percentages should be approximately 33 and 67%, respectively, at the end of the year. Forty-nine percent of the classes were from schools serving the Model Cities Neighborhood and 18% of the classes were from non-public schools. Participation criteria specified that during the 1972-73 school year over 50% of scheduled classes were to be from schools serving the Model Cities Neighborhood and approximately 15% of the scheduled classes were to be from non-public schools.

Discussion and Conclusions

Based upon teacher perception, the A Visit to the Farm segment of the component is meeting the goals of the segment and the expectations of participating teachers. Based upon student and teacher perception, the Productivity of the Land segment did not meet all of its goals. The expectations of participating teachers were, in general, met, and test results indicated that, after the field trip, participating students possessed an adequate knowledge of the farm and farm practices.

According to teacher response, students did not participate in small group activities to the extent desired. Eleven teachers, five in the fall and six in the spring, reported no small group activities. It should be noted that three of these teachers indicated that the small group activities were not held due to inclement weather. Considering the adverse effects of the weather, it would still seem that small group activities did not occur with the frequency intended.

Planting activities were not as frequent as hoped. It should be noted that classroom and student planting activities occurred at or above the desired level during the spring months. In as much as planting activities are more appropriate to the spring than the fall and since only classes visiting the farm in the spring were supplied with seed and soil, it is concluded that the program was generally successful in stimulating planting activities during the appropriate season. It should be noted that the collected data do not differentiate between student participation in planting a classroom garden and other unrelated student planting activities. There is no way of knowing whether students participated in planting activities in addition to those associated with their classroom garden.

The representative distribution of Model Cities Neighborhood schools and the proportion of schools scheduled into both program segments did not meet their performance criteria. Inclement weather forced the cancellation of four scheduled spring farm trips for Model Cities Schools. These cancellations, which could not be rescheduled, prevented attainment of the goal that 50% of Model Cities Schools would participate in the program. The representative distribution of schools scheduled into the two program segments was not, however, appreciably affected by these cancellations.

The program director did not submit monthly reports to the Environmental Education Coordinator for all months the program was in operation.

Summary and Recommendations

This subsection summarizes conclusions drawn from the findings of the preceding eight subsections and presents recommendations in accordance with those conclusions.

Component 1

Conclusions

The Environmental Education Coordinator's records indicated that the representative distribution of workshop participants was consistent with the expectations and that the workshop was generally implemented as planned. Participant perception and test results indicated that the workshop was successful in providing participants with an awareness and knowledge of environmental problems and the ability to seek solutions to these problems. Participants developed local action plans; about half of the school groups encountered difficulty in carrying out their action plans as originally scheduled.

Recommendations

Being successful in producing an environmentally-knowledgeable group of teachers, the workshop should continue to operate with modifications as necessary to insure the continued improvement of the program. Since the long-term success of the program depends upon the success of environmental education activities at the local level, continued efforts should be made to encourage, facilitate, and monitor these activities at the local level. The use of Environmental Resource Teams during the coming year is an effort in that direction.

Component 2

Conclusions

The Environmental Education Coordinator's records indicate that both the

Environmental Encounters and TV Workshops were essentially implemented as planned, although the number of enrollees for the TV Workshop fell sharply from the preceding year. These two workshops appear successful in increasing environmental awareness and knowledge, developing ecological values, acquainting participants with local environmental problems and possible solutions to the problems, and providing indepth study and training opportunities.

Recommendations

The success of the workshops in meeting their goals indicates that these workshop offerings should continue. In view of declining enrollments for the TV offerings, program personnel should periodically assess current need for both workshop types. Perhaps the TV workshops are needed less often or can be replaced by the encounter-type workshop.

Component 3

Conclusions

The Environmental Education Coordinator's records and the responses of workshop participants indicated that proposed curriculum materials were successfully drafted and that supervisory and consultant personnel provided workshop participants with adequate assistance and guidance. Because of the workload of project personnel, not all of these curriculum materials were prepared for duplication and distributed as scheduled.

Recommendations

The curriculum materials should be distributed early in the coming school year giving teachers a greater opportunity to use them and enabling evaluation of classroom use to be more meaningful. However, in terms of allocated resources, it seems that the expectation of completing and distributing curriculum guides for about nine subject areas or grade levels was overly ambitious. Therefore, more resources must be allocated if these materials are to be prepared and distributed on schedule.

Component 4

Conclusions

The Environmental Education Coordinator's records indicate that the Open-End Grant Program was organized and functioned in a manner consistent with the original plans. A vehicle was set up which enabled students to obtain money for environmental projects. Many secondary groups took advantage of this opportunity while only a few elementary school groups did. The number of groups completing their proposed activites as scheduled was less than expected; these groups, however, were accountable for their actions, either completing their tasks following delays or giving reasons for the failure to accomplish plans as scheduled. Some of the reasons for project implementation or completion delays appear preventable, others unavoidable.

Recommendations

Because the Open-End Grant Program was well implemented and shows much promise, it should be retained. Program personnel should continue their efforts to increase the participation of elementary schools and non-public schools and the involvement of students in local action groups.

Component 5

Conclusions

Although the revised field trip media package was not ready for use, the Environmental Education Coordinator's records and student and teacher participant responses indicate that the Elementary Field Trip Program, using the present media package, was generally well planned, functioned relatively smoothly, and was well received. The Secondary Field Trip Program started slowly and had fewer participants than expected. Secondary field trip participants were generally satisfied with trip results, but the limited number of participating groups made it difficult to develop field trip programs built around particular sites.

Recommendations

Findings suggest that the Elementary Field Trip Program is one of the more successful aspects of the Environmental Education Program. Accordingly, it should be continued and, if possible, expanded. The completion of the revised media package would make a good trip even better. During the 1972-73 school year, program personnel plan to concentrate efforts on one secondary field trip, an urban field trip. In view of the findings concerning last year's Secondary Field Trip Program, this concentration of effort seems appropriate.

Component 6

Conclusions

Based upon participant response and the Environmental Education Coordinator's records, the Environmental Issues and Leadership Workshops were implemented as planned and enabled participating students to gain environmental knowledge, heightening their awareness of local environmental problems and possible solutions to them. Evaluation findings indicate that following the successful workshop activities workshop student participation in local school environmental activities was less than expected.

Recommendations

Student workshop experiences should continue to be offered. Continued and increased efforts should be made to encourage greater student involvement in local school action groups. This endeavor requires the joint effort of student and faculty cadre in cooperation with program personnel.

Component 7

Conclusions

The LaVarnway Program was judged successful in most camping activities, in student math achievement, and in promoting and maintaining adequate student attendance and morale. In some instances failure to maintain records prevented or hindered assessment of program activities. Student progress in reading, student awareness of solutions to environmental problems, and changes in student/peer relationships were less than expected. The number of students enrolled at the Center met project objectives, but the enrollment was not maintained at that level throughout the project year.

Recommendations

The LaVarnway Program has shown progress but further improvement is necessary if this is to become an exemplary program. If reading improvement remains a goal of this program, assessment of the current program in cooperation with competent consultants should take place. More emphasis should be given to behavior modification in student/peer relationships. Program and evaluation personnel should meet early in the coming school year to assure that adequate records are maintained. In view of the high per-pupil cost, every reasonable effort should be made to maintain 30 or more students in the program.

In the camping program, more emphasis needs to be placed on the study of ecological problems and the solutions to these problems.

Component 8

Conclusions

Student and teacher responses indicate that both program segments have satisfied the expectations of participants. However, the proportion of schools scheduled into the two program segments did not meet the performance standard.

During the program year, students participating in the *Productivity of the Land* segment of the program demonstrated an adequate knowledge of farm practices but participation in small group activities was less than expected. During the spring semester, students participated in the expected number of planting activities.

Recommendations

Success of the farm program in meeting participant expectations suggests that the farm program should be continued, improved, and expanded to include more classes. Next year, the farm program will consist of one segment with more modest expectations; this appears to be a sound program modification.

SECTION II

OBJECTIVES, PROCEDURES, AND FINDINGS

This section details, for each of the eight program components, program objectives, assessment procedures, and findings. Instrumentation used in the assessment procedures is included in Appendix A.

COMPONENT ONE

Teacher Leadership Workshop

Product Objectives	Procedures	Findings
1. At the end of the UW-GB session, at least 70% of the participants will show on a questionnaire one or more positive changes in their environmental values. The decision as to whether the changes are positive or negative will be made by the project personnel.	A participant questionnaire* was developed by the department and was administered at the end of the workshop.	In the judgment of project personnel, six respondents did not adequately state a value. Accordingly, questionnaires completed by those participants were not used in the measurement of the objective. Twenty-five respondents were thus used in the measurement of this objective. Nineteen of 20 respondents showing one or more changes in environmental values were judged by project personnel to have indicated a positive value change. Therefore 19 of 25 or 76% of the usable responses were judged to have indicated positive value changes. The objective was considered to have been met.
2. At the end of the session, at least 80% of the participants will have successfully completed at least 12 of 18 suggested environmental activities. The adequacy of the completed assignments will be judged by the UW-GB personnel.	At the end of the session, UW-GB personnel indicated on an activity chart those participants successfully completing each environmental activity. The environmental activities were in the following ten areas: ecological cycles, population control, transportation and land use, urban environment, green belts, water quality, air quality, solid waste, energy crisis, and quality of life.	Review of the activity chart revealed that 100% of the 32 participants successfully completed at least 12 of 18 suggested environmental activities. The objective was met.

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*See Appendix A, Form 1-1

Product Objectives	Procedures	Findings
3. At the end of the session at least 90% of the cadre members will develop a position in respect to one environmental situation of their choice that will be judged by the UW-GB personnel to adequately show an understanding of environmental conditions, many points of view on the subject and possible strategies for attacking the problem.	The cadre gave written reactions to a description of a situation, prepared by UW-GB personnel, that had environmental implications. UW-GB personnel indicated the participants who, in their opinion, developed a position meeting the stated criteria.	UW-GB personnel indicated that 91% of the cadre members developed an adequate position. The objective was met.
4. At least 80% of the participating school groups will prepare a plan of action and accomplish the one and two priority objectives of their plan by the scheduled dates. The accomplishment of this objective will be determined by project personnel.	The evaluator reviewed the plans of action submitted to the Environmental Education Coordinator by the participating school groups. A questionnaire* was developed in cooperation with project personnel. Cadre members were asked to complete the questionnaire. Additionally, the evaluator interviewed 11 of the 39 school groups.	One hundred percent of the participating school groups prepared a plan of action. Seventeen of 20 secondary school groups and 17 of 19 elementary school groups responded to the questionnaire. The questionnaire responses indicated 54% of the participating school groups met the established criteria and 62% of the responding school groups met the established criteria. Five schools did not respond to the questionnaire. If all five of these schools had met the established criteria, 67% of the school groups would have met the objective. Therefore, between 54% and 67% of the school groups met the established criteria. The objective was not met.

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*See Appendix A, Forms 1-2, 1-4

Product Objectives	Procedures	Findings
5. At least 80% of the participants will demonstrate understanding of environmental concepts, as evidenced by obtaining correct answers to 70% or more of the items on an environmental test prepared by UW-GB personnel (percentages will be added upon construction of the test).	A test* was prepared, administered, and scored by the UW-GB personnel.	This objective was not evaluated in the precise form it was stated. The objective performance criterion refers to the correct answers to a certain percentage of the test items. However, the test, constructed, administered, and scored by the UW-GB personnel, was not scored in that manner. Instead, each item was worth a fixed number of points and partial as well as full credit for item responses was given. The total score was the sum of the points assigned to the individual items. Table 3 (Page 8) depicts test results. Although, strictly speaking, the objective could not be measured, it should be noted that 85% of the students achieved scores that were 80% or more of the highest possible point total. The objective is considered met.

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*See Appendix A, Form 1-5

Process & Management Objectives	Procedures	Findings
6. The compilation of responses to the daily workshop sessions from samples of participants will indicate that they acquired much or very much environmental information from at least 80% of the daily sessions.	A participant survey* was developed by the department and administered to a sample of participants.	Compilation of the ten survey responses revealed that much or very much environmental information was acquired from 70% of the daily sessions. The objective was not met.
7. The cadre will consist of elementary and secondary teachers from a variety of grade levels and disciplines, as evidenced by the Environmental Education Coordinator's records.	The evaluator reviewed the coordinator's records.	Examination of the coordinator's records indicated that the cadre consisted of 16 elementary teachers from six grade levels and 15 secondary teachers from eight disciplines. The objective was met.
8. The cadre will have interdisciplinary representation in which at least eight disciplines will be represented at the secondary level and primary and intermediate teachers represented at the elementary level, as evidenced by the Environmental Education Coordinator's records.	The evaluator reviewed the coordinator's records.	Examination of the coordinator's records indicated that the cadre contained representatives from eight disciplines at the secondary level and included six primary and eight intermediate teachers at the elementary level. The objective was met.

*See Appendix A, Form 1-6

Process & Management Objectives	Procedures	Findings
9. Representatives from at least three outside community agencies will participate in the workshop as revealed by the attendance records maintained by the Environmental Education Coordinator.	The evaluator reviewed the coordinator's records.	Examination of attendance records indicated that the representatives from four outside agencies participated in the workshop. The objective was met.
10. At least five Milwaukee Public Schools administrative and supervisory personnel will be in attendance at the leadership workshop, as evidenced by the Environmental Education Coordinator's records.	The evaluator reviewed the coordinator's records.	Examination of the coordinator's records indicated that seven Milwaukee Public Schools administrative and supervisory personnel attended the leadership workshop. The objective was met.

COMPONENT TWO

Inservice Workshops

Product Objectives	Procedures	Findings
1. At least 10% of the TV Inservice Workshop participants will have shown during the year an interest to improve the environment by planning or introducing one or more environmental education concepts or activities developed in the Inservice Workshop in their classes or school environment. This information will be collected by a teacher questionnaire.	A teacher questionnaire* was developed in cooperation with the project personnel. A questionnaire was administered to the participants following the workshop sessions.	In the spring, 31 of 32 participants responded to the questionnaire. Twenty-five, 81%, of respondents indicated they had planned or introduced one or more concepts or activities developed in the workshop in their classes or school environment. The objective was met.
2. During the three months following the workshops at least 70% of the teachers will apply in their classes at least six suggestions from the summer curriculum workshop materials for their particular subject area or grade level. This information will be collected by a teacher questionnaire.	A teacher questionnaire* was developed in cooperation with the project personnel. An instrument was administered to participating teachers who should have received the summer curriculum workshop materials.	Four participating teachers should have received curriculum materials. Two of these teachers responded to the questionnaire. One of the two respondents, 50%, indicated that six or more suggestions were used.** The objective was not met. **At the time this objective was written, it was anticipated all workshop participants would receive curriculum materials. However, because some curriculum materials were not ready for distribution, only four participants were in subject area fields or grade levels where curriculum materials had been distributed.

*See Appendix A, Forms 2-1, 2-2

Product Objectives	Procedures	Findings
		**(continued) Accordingly the findings for this objective are not too meaningful.
3. At the end of the TV Inservice Workshop, teachers who completed the workshop will show increased concern for the environment by obtaining higher mean post scores than pre scores on an environmental practices inventory.	An Environmental Practices Inventory* was developed in cooperation with the project personnel. The inventory was administered to the participants before and after the spring workshop sessions.	Before the workshop sessions in the spring 35 participants responded to the inventory. After the workshop sessions 31 participants responded to the inventory. Analysis revealed a pretest mean of 193.7 and a posttest mean of 195.7. The objective was met.
4. At the end of the TV Inservice Workshop, at least 70% of the teachers completing the workshop will be able to list on a questionnaire at least five environmental problems facing the community and one or more environmentally sound options to the solution of each identified problem.	A paper and pencil test* was developed in cooperation with the project personnel. Following the workshop, the test was administered to the participants.	In the spring 31 of 32 participants completed and returned the paper and pencil tests. Seventy-one percent of the teachers met the performance criteria. The objective was met.

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*See Appendix A, Forms 2-3, 2-1

Product Objectives	Procedures	Findings
5. At least 70% of the participating teachers who complete the TV Inservice Workshop will indicate on a questionnaire that the workshop was effective in (a) increasing their awareness and knowledge of the environment, (b) developing their ecological values, (c) acquainting them with the range of Milwaukee environmental problems and their solutions, & (d) the use of modes of instruction, techniques, and materials.	A teacher rating scale* was developed in cooperation with the project personnel. Following the workshop sessions participants were asked to complete the scale.	In the spring 31 of 32 participants responded to the scale. One hundred percent of the respondents indicated that the workshop was effective in increasing their awareness and knowledge of the environment; 97% in developing their ecological values; 100% in acquainting them with the range of Milwaukee environmental problems and their solutions; and 93% in the use of modes of instruction, techniques, and materials. The degree of effectiveness varied from very effective to a small effect. The objective was met.
6. At least 70% of the participating teachers who complete the Environmental Education Workshops will indicate on a questionnaire that the workshop was effective in (a) increasing their awareness and knowledge of the environment, (b) developing their ecological values, (c) providing an indepth study and training opportunity with respect to environmental problems and solutions and (d) the use of modes of instruction, techniques, and materials.	In the fall, a teacher rating scale* was developed in cooperation with LaVerne Forest of the University of Wisconsin-Extension Service and project personnel. In the spring slight revisions in this scale were made. Following the spring and fall workshop sessions, the participants were asked to complete the scale.	In the fall, 21 of 25 participants responded to the scale and in the spring, 24 of 27 participants responded to the scale. For both the fall and spring semesters, 100% of these respondents indicated that the workshop was effective. The objective was met for both the fall and spring semesters. The objective was, therefore, met for the 1972-1973 project year.

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*See Appendix A, Forms 2-1, 2-6

Process & Management Objectives	Procedures	Findings
7. Information and enrollment forms for each workshop will be distributed to each Milwaukee Public School and to the non-public schools expressing interest in participating in the program.	The evaluator reviewed the coordinator's records.	Review of the coordinator's records indicated that the information and enrollment forms for both the fall and spring Environmental Education Workshops were distributed to all Milwaukee Public Schools and non-public schools. The objective was met for both the fall and spring semesters. The objective was, therefore, met for the 1972-1973 project year.
8. The attrition rate of Milwaukee Public Schools personnel enrolled (attending the first session) in the workshops will be no greater than 25%.	The evaluator reviewed the coordinator's records.	In the fall, 22 of 25 Milwaukee Public Schools personnel attending the first Environmental Encounter Workshop session successfully completed the workshop requirements. In the spring, 18 of 21 Milwaukee Public Schools personnel attending the first Environmental Encounter Workshop session successfully completed the workshop requirements. Attrition rate was 12% for the fall semester and 14% for the spring semester. In the spring, 32 of 33 Milwaukee Public Schools personnel attending the first TV Inservice Workshop session successfully completed the workshop requirements. Attrition rate was 3%.

Process & Management Objectives	Procedures	Findings
		The objective was met for both the fall and spring semesters. The objective was, therefore, met for the 1972-1973 project year.
9. At the end of both workshops, the assigned cadre member(s) will be rated on a questionnaire to have been effective discussion or activity leaders according to pre-established criteria by at least 80% of the participating teachers.	A questionnaire* was developed in cooperation with project personnel and it was administered to the participants following the spring TV Workshop. Because the Environmental Encounter Workshop was held in one location, cadre were not used for discussion or activity leaders at these sessions.	Thirty-one of 32 TV Inservice Workshop participants completed the questionnaire. The assigned cadre members were rated as effective discussion or activity leaders on each of six pre-established criteria by at least 84% of the respondents. The objective was met.
10. The Environmental Education Coordinator and the technical assistant will cooperatively develop the final scope and sequence of the Environmental Education Workshop, as evidenced by a personal interview conducted by members of the evaluation staff.	The evaluator interviewed the Environmental Education Coordinator and the technical assistant.	Interviews with the coordinator and technical assistant indicated that the development of the final scope and sequence for the fall and spring Environmental Education Workshops was a cooperative venture. The objective was met for both the fall and spring semesters. The objective was, therefore, met for the 1972-1973 project year.

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*See Appendix A, Form 2-6

COMPONENT THREE

Curriculum Development Workshop

Product Objectives	Procedures	Findings
1. During the 1972-1973 school year, all of the Milwaukee Public Schools teachers who pilot test the developed environmental course will judge it to be satisfactory and worthy of inclusion into the curriculum.	A teacher rating scale* was developed in cooperation with the project personnel and completed by teachers pilot testing the developed environmental course.	Two of three teachers who pilot tested the environmental course judged it to be satisfactory and worthy of inclusion into the curriculum. The objective was not met.
2. The field trip media package to be pilot tested during the 1972-1973 school year will be revised during the summer workshop and be ready for the fall pilot testing, as evidenced by the Environmental Education Coordinator's records of completed projects.	The evaluator reviewed the coordinator's records.	The revised field trip media package was not ready for fall pilot testing. The objective was not met.
3. At least 50% of the "curriculum specials" will receive positive responses from 80% or more of the teachers watching each special.	A teacher survey* was developed in cooperation with project personnel. The survey was administered to a random sample of teachers watching the English, Home Economics, and Oak Ridge Farm Trip Specials.	Participants from ten of 17 viewing centers completed and returned survey forms after the Home Economics Special. Ninety-five percent of the respondents indicated that the program was effective. Nine of the 16 surveyed schools completed and returned survey forms after the English Special. Eighty-five percent of the respondents indicated that the program was effective.

*See Appendix A, Forms 3-1, 3-3

Product Objectives	Procedures	Findings
		(continued) Six of the ten surveyed schools completed and returned survey forms after the Oak Ridge Farm Trip Special. One hundred percent of the respondents indicated that the program was effective. The objective was met.
4. By the end of the three week curriculum workshop, at least 90% of the writing teams will have prepared a set of curriculum materials for their area or grade level which will be judged satisfactory by curriculum supervisors.	A survey* was developed in cooperation with project personnel. The survey was administered to curriculum supervisors after the three week workshop.	One hundred percent of the writing teams prepared a set of curriculum materials that were judged satisfactory. The objective was met.
5. Revised guidelines for the implementation of an environmental education course at the high school level will have been prepared by the start of school in the fall of 1972, as evidenced by the Environmental Education Coordinator's records of completed projects.	The evaluator reviewed the coordinator's records.	Review of the coordinator's records indicated that the revised guidelines were prepared by the start of school in the fall of 1972. The objective was met.

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*See Appendix A, Form 3-4

Product Objectives	Procedures	Findings
6. At the end of the school year, at least 80% of the teachers who received the prepared curriculum materials will indicate on a questionnaire that they made effective use of the materials.	A teacher survey* was developed in cooperation with project personnel. Teachers in a randomly selected sample of schools were asked to complete and return the survey forms.	Six chemistry teachers from four of seven surveyed schools, nine junior high math teachers from one of ten surveyed schools, 41 English or language arts teachers from nine of 17 surveyed schools, and 35 home economics teachers from eight of 17 surveyed schools completed and returned survey forms; and 83%, 100%, 66%, and 63% of the respondents receiving curriculum materials, respectively, indicated they were making effective use of the materials. Overall, combining the four subject areas, 69% of the respondents receiving the materials indicated they were making effective use of the materials. The objective was not met.
7. By March 15th at least 70% of the teachers who received the prepared curriculum materials will indicate on a questionnaire that they are making effective use of the materials.	A teacher survey* was developed in cooperation with project personnel. Teachers in a randomly selected sample of schools were asked to complete and return the survey forms.	Seven chemistry teachers from six of seven surveyed schools, 51 junior high math teachers from six of 11 surveyed schools, 63 English or language arts teachers from ten of 18 surveyed schools, and 28 home economics teachers from ten of 18 surveyed schools completed and returned survey forms; and 78%, 31%, 30%, and 79% of the respondents receiving curriculum materials, respectively, indicated that they were

*See Appendix A, Form 3-6

Product Objectives	Procedures	Findings
		(continued) making effective use of the materials. Overall, combining the four subject areas, 44% of the respondents receiving the materials indicated they were making effective use of the materials. The objective was not met.

Process & Management Objectives	Procedures	Findings
8. At the end of the first week of the Curriculum Workshop, each writing team will have prepared a grid for his subject area or grade level, as evidenced by the Environmental Education Coordinator's records of completed projects.	The evaluator reviewed the coordinator's records.	Review of the coordinator's records indicated that nine of nine writing teams had prepared a grid for their subject area or grade level.** The objective was met. **The nine writing areas were General Guide (K-3), Idea Book (K-6), English, Math, Home Economics, Chemistry, Science (8), Social Studies, Milwaukee Unit (5)
9. The participants in the Curriculum Development Workshop will represent at least six subject areas at the secondary level and both primary and intermediate grades at the elementary level, as evidenced by the Environmental Education Coordinator's records of the workshop.	The evaluator reviewed the coordinator's records.	Participants in the Curriculum Development Workshop represented seven subject areas at the secondary level and seven intermediate grade levels. The objective was met.

Process & Management Objectives	Procedures	Findings
10. The supervisory personnel participating in the Curriculum Development Workshop will be judged by at least 70% of the workshop participants to have provided adequate assistance and guidance.	A teacher participant survey* was developed in cooperation with project personnel.	Eighty-eight percent of the workshop participants indicated on a survey that, in their judgment, supervisory personnel provided adequate assistance and guidance. The objective was met.
11. Curriculum materials prepared by the groups and judged as satisfactory by the curriculum specialists will be disseminated to teachers, department chairmen, inservice workshop participants, etc. by December 1, 1972.	The evaluator reviewed the coordinator's records.	Review of the coordinator's records revealed that only chemistry and mathematics guides were disseminated by December 1, 1972. Thus, two of nine curriculum guides prepared by the groups and judged satisfactory were disseminated by December 1, 1972.** The objective was not met. **English and home economics guides were distributed prior to January 25, 1973.
12. Outside consultants participating in the Curriculum Development Workshop will be judged by at least 70% of the workshop participants to have provided adequate assistance and guidance.	A teacher participant survey* was developed in cooperation with project personnel.	Eighty-two percent of the workshop participants indicated that, in their judgment, the outside consultants provided adequate assistance and guidance. The objective was met.

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*See Appendix A, Form 3-10

COMPONENT FOUR

Open End Grant Program

Product Objectives	Procedures	Findings
1. At least 80% of the School Action Committees receiving money from their proposal will carry out 75% of their proposal design, as measured by the project evaluator's audit of their activities.	An audit survey form* was developed in cooperation with project personnel. School Action Committee sponsors were asked to respond to the survey. Additionally the evaluator conducted interviews with nine of 15 secondary mini-proposal fund recipients during the 1972-73 school year.	The audit of the recipients' activities revealed that 67% of the School Action Committees receiving proposal money carried out 75% of their designs. The objective was not met.
2. At least 80% of the students on School Action Committees who have received funding from the Mini-Proposal Program will respond favorably that the program has given them a voice and means to begin solving or alleviating environmental problems in and around their school/community, as measured by a locally devised student questionnaire.	A student questionnaire* was developed in cooperation with the project personnel. The questionnaire was mailed along with a self-addressed, stamped envelope to all students listed on the mini-proposal application forms.	Twenty-eight of 96 students responded to the questionnaire. Eighty-five percent of the respondents indicated the program did give them a voice and means to solve or alleviate environmental problems. The objective was met.
3. At least 80% of the elementary schools receiving money for their mini-proposal will carry out 75% of their proposal design, as measured by the project evaluator's audit of their activities	An audit survey form* was developed in cooperation with project personnel. The sponsor was asked to complete this survey.	One elementary school proposal was funded at the cluster level and involved ten elementary schools. The proposal design is still being carried out. The objective was not measured.

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*See Appendix A, Forms 4-1, 4-2

Product Objectives	Procedures	Findings
4. Students in the schools (or school) awarded the Instrumentation Program funds will begin to develop an awareness to environmental degradation by visibly demonstrating a willingness to participate in the design. This objective will be considered attained if a total of at least 25 students not associated with the design voluntarily offer their services to aid in implementing the design, as evidenced by the project advisor's records.	The project record of the schools awarded Instrumentation Program funds was reviewed by the department. Participating students were listed on a form.*	Two of the three participating schools responded on the survey from. One school had six volunteers and the other over 50. The objective was not met.
5. The class or group in a school or schools given the funds will carry out 85% of the design of the proposal they submitted, as determined by the project evaluator's audit of the program.	An audit survey form* was developed in cooperation with project personnel. The sponsor was asked to complete the survey. Additionally the evaluator conducted interviews with two of the three fund recipients.	Two of the three schools awarded instrumentation funds returned the audit survey. Both school groups met 85% or more of their proposal designs. The objective was considered met.

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*See Appendix A, Forms 4-4, 4-1

Process & Management Objectives	Procedures	Findings
6. The Review Committee, which has been established in cooperation with the Environmental Education Coordinator, the cadre, and the Advisory Council, will meet monthly to evaluate mini-proposals and make recommendations for funding. The committee will continue to have representation from students, cadre, administrators, parents, community groups, and agencies, as evidenced by the Environmental Education Coordinator's records.	The coordinator's records were reviewed to determine if the Review Committee met monthly and to verify the groups represented on the Review Committee.	From August 1972 to May 1973 the committee held at least one monthly meeting in each of the nine months.* The committee was composed of at least one representative from each of the following groups: students, cadre, administrators, parents, and community groups and agencies. The objective was considered met. *Due to the Christmas holidays the December meeting was held on January 3, 1973 and due to the Easter holidays the April meeting was held on May 1, 1973.
7. The Environmental Education Coordinator and Review Committee will distribute the established criteria as outlined in the Mini-Proposal Handbook for evaluation of mini-proposals, as evidenced by a written communication to all principals, cadre members, and the Advisory Council.	The coordinator's records were reviewed to verify that the written communication took place.	Examination of the written communication to principals, cadre members, and the Advisory Council verified that the established criteria for the evaluation of mini-proposals were distributed, as specified in the objective. The objective was met.

Process & Management Objectives	Procedures	Findings
8. Invitations to participate in the program and the mini-proposal guidelines will be sent to the principals of the elementary and secondary schools within the city of Milwaukee, as evidenced by the Environmental Education Coordinator's records.	The coordinator's records were reviewed to verify that the invitations were extended and that the mini-proposal guidelines were sent to non-public school principals.	Examination of the written communication to non-public elementary and secondary school principals verified that specified invitations were extended and that proposal guidelines were sent to the non-public school principals. The objective was met.
9. The Review Committee will organize for the Mini-Proposal Program in 1972-1973 by reviewing procedures for the evaluation and recommendation of proposals submitted by elementary and secondary schools, as evidenced by a written report of these procedures submitted to the Environmental Education Coordinator.	The evaluator reviewed the coordinator's records.	Examination of the minutes of the September 27, 1972 and the August 1972 meetings of the Review Committee revealed that procedures for the evaluation and recommendation of submitted proposals were reviewed. The coordinator then prepared a set of revised procedures for the 1972-1973 project year. The objective was considered met.
10. The Interdivisional Review Board members will meet monthly to express the concerns of their respective divisions regarding those proposals approved by the Review Committee prior to the final approval by the appropriate departmental director, as evidenced by the Environmental Education Coordinator's records.	The evaluator reviewed the coordinator's records.	From September 1972 to June 1973, the board held at least one monthly meeting in nine of the ten months.** The objective was not met. **No meeting was held in November due to a conflict in individual schedules. However, the coordinator did request and receive the written concerns of board members.

Process & Management Objectives	Procedures	Findings
11. In at least 80% of the secondary schools, a School Action Committee of students and teachers will be organized and hold at least one meeting a month, as evidenced by the Environmental Education Coordinator's records.	A report form* was developed in cooperation with project personnel. The form was distributed to all secondary cadre members. The evaluator reviewed the completed reports and the coordinator's records.	Twenty-nine of the 33 secondary school groups returned completed report forms. Seventy-six percent of the respondents had a School Action Committee, and 52% of the respondents held at least one meeting per month.** If the four schools that didn't respond had met the established criteria, then 79% of the secondary schools would have had a School Action Committee and 58% would have held at least one meeting per month. Thus, in from 76-79% of the secondary schools, a School Action Committee was organized and in from 52-58% of the secondary schools, the committee held at least one monthly meeting. The objective was not met. **Schools holding at least eight monthly meetings were considered to have held at least one meeting a month.
12. The School Action Committee in at least eight secondary schools will gain experience in proposal writing by submitting a mini-proposal to the Review Committee, as evidenced by the Environmental Education Coordinator's records.	The evaluation reviewed the coordinator's records.	Review of the coordinator's records indicated that 15 secondary schools have submitted a mini-proposal to the Review Committee. The objective was met.

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*See Appendix A, Form 1-4

Process & Management Objectives	Procedures	Findings
13. At least 10% of the elementary schools will submit mini-proposals to the Review Committee, as evidenced by the Environmental Education Coordinator's records.	The evaluator reviewed the coordinator's records.	Ten percent of the elementary schools have submitted proposals during the 1972-1973 school year.** The objective was met. **Four proposals have been submitted. Three were submitted by single elementary schools and one was submitted by a cluster involving ten elementary schools. Thus, 13 schools were involved in submitting proposals for funding.
14. At least 90% of the groups submitting an instrumentation proposal will voice a concern in writing for the environmental degradation that exists in the Milwaukee area, as evidenced by the project coordinator's and evaluator's review of the written proposal and any accompanying letters received.	The Environmental Education Advisory Council's records were reviewed.	After review of the written proposals, the evaluator and coordinator agreed that all three instrumentation proposal groups voiced a concern for the environmental degradation that exists in the Milwaukee area. The objective was met.

COMPONENT FIVE

Urban Field Trip Pilot Program

Product Objectives	Procedures	Findings
1. The Urban Field Trip participants will show improved understanding of the urban environment by showing a higher mean posttest than pretest score on an instrument measuring environmental concepts.	Prior to the fall program a 20 item paper and pencil test* was developed in cooperation with project personnel to measure urban environmental concepts. Prior to the spring program, some test items were changed as a result of an item analysis. These tests were administered to field trip participants before and after the trip.	In the fall, of the 72 participating classes, 62 submitted pretest results and 68 submitted posttest results. Analysis revealed a pretest mean of 6.2 and a posttest mean of 8.2. In the spring, of the 68 participating classes, 62 submitted pretest results and 63 submitted posttest results. Analysis revealed a pretest mean of 7.7 and a posttest mean of 10.2. The objective was met for both the fall and spring semesters. The objective was, therefore, met for the 1972-1973 project year.
2. At least 30% of the elementary students of ten selected classes will have been motivated by pretrip, ontrip, and posttrip activities to voluntarily perform or begin one of the list of task suggestions included in the media package within two weeks after the field trip, as indicated on a teacher checklist.	A questionnaire* was developed and sent with a list of suggested tasks to ten selected classes. Teachers were asked to complete and return the questionnaire.	In the fall, seven of ten selected classes submitted completed questionnaires. Review of teacher records indicated that 87% of the students voluntarily formed or started at least one of the task suggestions. In the spring, four of ten selected classes submitted completed questionnaires. Review of teacher records indicated that 63% of the students voluntarily formed or started at least one of the task suggestions.

*See Appendix A, Forms 5-1, 5-2

Product Objectives	Procedures	Findings
		(continued) The objective was met for both the fall and spring semesters. The objective was, therefore, met for the 1972-1973 project year.
3. After using the materials at least 70% of the teachers will rate on a questionnaire this audio/visual presentation and other elements as effective in the environmental instruction of pupils.	A questionnaire* was developed in cooperation with project personnel. After using the field trip materials, the questionnaire was completed by the participating teachers.	In the fall, 49 of 72 participating teachers returned the completed questionnaires. One hundred percent of the teachers using the materials rated the Urban Field Trip Teacher's Guide and the kit of related materials as effective in the environmental instruction of pupils. Ninety-eight percent of the teachers using the materials rated the slide-tape presentation as effective in the environmental instruction of pupils. In the spring, 53 of 68 participating teachers returned the completed questionnaires. Ninety-eight percent of the teachers using the slide-tape presentation, 94% of the teachers using the Urtan Field Trip Teacher's Guide, and 89% of the teachers using the kit of related materials rated these materials as effective in the environmental instruction of the pupils.

*See Appendix A , Form 5-3

Product Objectives	Procedures	Findings
		(continued) The objective was met for both the fall and spring semesters. The objective was, therefore, met for the 1972-1973 project year.
4. At least 10% of those secondary groups which have participated in the field trips will perform at least one activity related to the field trip, as evidenced by teacher records.(i e., Submit a written suggestion for the development of the site visited amplifying a suggestion made at the site, or plan and/or carry out a related activity discussed on the field trip within their own cluster, or write a mini-proposal through the Open End Grant Program to implement a related activity.)	A survey form* was developed and, after the field trip, it was completed by participating teachers.	Ten of 13 participating groups returned completed survey forms. One hundred percent of these ten secondary groups performed at least one activity related to the field trip. The objective was met.
5. At the end of the first field trip, at least 70% of the secondary students from the school action groups visiting any one of the sites will show an understanding of ecological interrelationships by answering correctly seven out of ten questions about these interrelationships.	Paper and pencil tests* for each site were developed in cooperation with project personnel.	Thirteen field trips were conducted, four during the fall semester and nine during the spring semester. Nine of the 13 groups submitted test results. Seventy-nine percent of the 238 secondary students from the nine responding groups met the criterion. The objective was met.

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*See Appendix A , Forms 5-4, 5-5

Product Objectives	Procedures	Findings
6. At the end of each field trip at least 70% of the participating groups of secondary students will be able to make at least two environmentally-sound suggestions for site development and use, as judged by project personnel.	A survey form* was developed. Each participating group was asked to give two or more suggestions for site development and use. The suggestions reflected group consensus.	Twelve of 13 participating groups returned completed survey forms. One hundred percent of these groups made two or more suggestions for site development and use. The objective was met.

Process & Management Objectives	Procedures	Findings
7. A selected group of participants will revise and finalize the field trip media package which will include audio and/or visual materials, a teacher's guide, and student materials. This objective will be considered attained if a curriculum specialist and a media specialist rate the package satisfactory or better on a checklist containing the media package criteria prior to its use.	A checklist will be developed in cooperation with project personnel.	This objective was not measured. The field trip media package is still in the process of being revised or finalized.

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*See Appendix A, Form 5-6

Process & Management Objectives	Procedures	Findings
8. At least 20 elementary schools from all of those schools serving the Model Cities Neighborhood will accept the invitation to participate in the Urban Field Trip Pilot Project, as evidenced by the Environmental Education Coordinator's records.	A list of Model Cities schools accepting the invitation to participate in the fall Urban Field Trips was sent to the project evaluator by the coordinator.	Twenty-six elementary schools serving the Model Cities Neighborhood accepted the invitation to participate in the Urban Field Trip Project, 15 during the fall semester and 11 during the spring semester. The objective was met.
9. At least 18 of the school action groups from the 32 secondary schools will visit two sites sometime during the 1972-1973 school year--Demonstration Farm, Hawthorne Glen, Potter Forest, and a Model Cities Neighborhood playground, etc.	A listing of the participating secondary groups and the sites visited was received from the Environmental Education Coordinator.	Groups from ten secondary groups participated in the program. Only three groups visited two different sites. The objective was not met.

Process & Management Objectives	Procedures	Findings
10. The Environmental Education Coordinator will make arrangements to procure a qualified consultant for each of the field trips planned in the elementary project, if needed, and the secondary project. A consultant will be judged qualified if he (a) has a background relating to topic(s) that will be discussed on the field trip and (b) has experience in conducting similar visitations. This objective will be considered attained if all of the aforementioned guidelines are followed 90% of the time, as evidenced by the Environmental Education Coordinator's records.	The Environmental Education Coordinator supplied a list of consultants employed for each elementary and secondary field trip. The list included each consultant's appropriate background and experience. The evaluator determined whether the listed qualifications met the guidelines outlined in the objectives.	A consultant meeting the qualification guidelines was present on all 70 elementary field trips and on five of the 13 secondary field trips. A qualified consultant was procured for 90% of the elementary and the secondary field trips. The objective was met.
11. On at least 85% of the field trip occasions the teacher of the class or cadre member in charge of the school action groups will be present and participating in the Field Trip Pilot Program experience. This objective will be ascertained from the Environmental Education Coordinator's attendance records.	Attendance records for the secondary field trips were reviewed by the evaluator.	On 100% of the secondary field trip occasions, the teacher of the class or cadre member in charge of the group was present and participated in the field trip experience. The objective was met.

COMPONENT SIX

Student Leadership Workshop

Product Objectives	Procedures	Findings
1. At the end of the three week workshop, at least 70% of the students will be able to demonstrate their written knowledge of Milwaukee's environmental problems by identifying five or more environmental problem areas and suggesting reasonable approaches to their solution.	A paper and pencil test* was developed and administered to the workshop participants after the workshop. Project personnel judged the reasonableness of the suggested approaches to the solutions of environmental problems.	Seventy-eight percent of the students identified five or more environmental problem areas and were judged to have suggested reasonable approaches to these problems. The objective was met.
2. By the end of the school year, at least 80% of summer school workshop students will show positive ecological values by being constructively active in one or more environmental activities in their schools, as reported by cadre members.	A survey form* was developed in cooperation with project personnel and cadre members were asked to complete the survey.	Twenty-six of 30 surveyed cadre members responded to the survey. Cadre members identified 59 of 92 summer school workshop students.** Seventy-six percent of the identified were, in the opinion of a cadre member, constructively active in one or more environmental activities in their schools. The objective was not met. **Thirty-three students were not identified. Assuming all 33 were constructively active, 78 of the 92 students, 85%, would have met the established criterion. Thus, at least 76%, but no more than 85%, of the students met the performance criterion.

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*See Appendix A, Forms 6-1, 4-1

Product Objectives	Procedures	Findings
3. By the end of the school year, at least 90% of summer school workshop students participating in the Student Leadership Workshop will be reported by cadre members to have played leadership roles in one or more environmental activities in their schools.	A survey form* was developed in cooperation with project personnel and cadre members were asked to complete the survey.	Twenty-six of 30 surveyed cadre members responded to the survey. Forty-one of 47 summer school workshop students were identified by cadre members.** Fifty-one percent of those identified were, in the opinion of a cadre member, constructively active in one or more environmental activities in their schools. The objective was not met. **Six students were not identified. Assuming all six met the established criterion, 27 of 47 students, 57%, would have met the performance standard. Thus, at least 51%, but no more than 57%, of the students met the performance criterion.
4. At the end of the two week workshop, at least 70% of the participating schools will have developed approved plans of action to initiate environmental activities in their respective schools during the 1972-1973 school year, as evidenced by the Environmental Education Coordinator's records.	Copies of approved plans of action developed by participating schools were received from the Environmental Education Coordinator and reviewed by the evaluator.	Sixteen schools were represented at the workshop. All 16 school groups, 100% of the participating school groups, developed school action plans. The objective was met.

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*See Appendix A, Form 4-1

Product Objectives	Procedures	Findings
5. At least 80% of participating school groups with approved plans of action will accomplish the one and two priority objectives of their plan of action by the scheduled dates. The accomplishment of this objective will be determined by project personnel.	A questionnaire* was developed in cooperation with project personnel. Student and faculty cadre were asked to cooperatively complete the questionnaire. Additionally, the evaluator interviewed six of the school action groups.	Fourteen of the 16 school groups responded to the questionnaire.** Fifty percent of the responding groups indicated they had accomplished the one or two priority objectives by the scheduled dates. The objective was not met. **Two schools did not respond to the questionnaire. If both of these schools met the established criteria, 56% of the school groups would have met the objective. Therefore, between 50% to 56% of the school groups met the established criteria.
6. As a result of meetings held during the school year, the citywide student cadre will develop an environmental plan and accomplish its priority objective(s).	The evaluator requested a copy of the plan and reviewed the Environmental Education Coordinator's records.	The citywide student cadre did not develop an environmental plan.** The objective was not met. **The citywide student cadre were involved in planning three student cadre meetings, a recycling drive, and a symposium.

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*See Appendix A, Form 4-1

Process & Management Objectives	Procedures	Findings
7. At least 80% of the participants in the Student Leadership Workshop will indicate on a questionnaire that the workshop was effective in transmitting the information and providing the experiences necessary to enable them to serve as environmental leaders in their schools.	A questionnaire* was developed and administered to participants at the end of the Student Leadership Workshop.	Forty-six of 53 participants responded. Ninety-one percent of the respondents indicated the workshop was effective in transmitting the information and providing the experiences necessary to enable them to serve as the environmental leaders in their schools. The objective was met.
8. At least 80% of participants in the Environmental Issues Workshop will indicate on a questionnaire that the workshop increased their awareness of the range of environmental problems facing the community.	A questionnaire* was developed and administered to participants at the end of the Environmental Issues Workshop.	Eighty of 81 participants responded. Eighty-nine percent of the respondents indicated that the workshop increased their awareness of the range of environmental problems facing the community. The objective was met.

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*See Appendix A, Forms 6-7, 6-8

COMPONENT SEVEN

Exceptional Education/Handicapped Program

Product Objectives	Procedures	Findings
1. At the end of the fall camping session, at least 70% of the students participating in the camping program will identify on a survey three or more ecological problems suggested by study of the camp site.	After the camping experience, a paper and pencil test* was administered to LaVarnway students participating in the camping activities. One of the project's teachers gave directions, asked for a few examples and helped students with spelling.	Ten of 13 camping participants responded. Ninety percent of these students identified three or more ecological problems suggested by study at the camp site. The objective was met.
2. At the end of the spring camping session, at least 70% of the students participating in the camping program will list on a survey two or more solutions to at least three of the problems they identified in the fall.	After the spring camping session a paper and pencil test* was administered to the students.	All nine students that identified three or more ecological problems in the fall responded to the paper and pencil test. Twenty-two percent of the students listed two or more solutions to at least three of the problems. The objective was not met.
3. At the end of the 1972-1973 school year, at least 60% of the students enrolled in the Milwaukee Public Schools/Boys' Club Program classes for eight months or more will show a gain of at least five months in reading recognition, as measured by the Peabody Individual Achievement Test.	The Peabody Individual Achievement Test was administered to the students upon enrollment in the Boys' Club Program. The same test was administered in June 1973 to the students enrolled in the program for eight months or more.	During the 1972-1973 school year 13 students were enrolled in the program for eight months or more. Thirty-one percent of these students showed a gain of at least five months in reading recognition. The objective was not met.

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*See Appendix A, Form 7-1

Product Objectives	Procedures	Findings
4. At the end of the 1972-1973 school year, at least 60% of the students enrolled in the Milwaukee Public Schools/Boys' Club Program classes for eight months or more will show a gain of at least five months in reading comprehension, as measured by the Peabody Individual Achievement Test and/or Stanford Diagnostic Reading Test.	The Peabody Individual Achievement Test was administered to the students upon enrollment in the Boys' Club Program. The same test was administered in June 1973 to the students enrolled in the program for eight months or more.	During the 1972-1973 school year 13 students were enrolled in the program for eight months or more. Thirty-one percent of these students showed a gain of at least five months in reading comprehension. The objective was not met.
5. At the end of the 1972-1973 school year, at least 60% of the students enrolled in the Milwaukee Public Schools/Boys' Club Program classes for eight months or more will show a gain of at least five months in mathematics, as measured by the Peabody Individual Achievement Test and/or Stanford Diagnostic Arithmetic Test.	The Peabody Individual Achievement Test was administered to the students upon enrollment in the Boys' Club Program. The same test was administered in June 1973 to the students enrolled in the program for eight months or more.	During the 1972-1973 school year 13 students were enrolled in the program for eight months or more. Sixty-two percent of these students showed a gain of at least five months in mathematics. The objective was met.
6. At least 50% of students enrolled in the Milwaukee Public Schools/Boys' Club Program placed in the regular classroom in September 1972 will remain in the regular classroom for the school year, as evidenced by the Milwaukee Public Schools' records.	The names of students enrolled in the program and placed back in the regular classroom in September 1972 were received from the program supervisor. Milwaukee Public Schools' records were reviewed to determine those students remaining in the regular classroom for the school year.	Four students enrolled in the Milwaukee Public Schools/Boys' Club Program during the 1971-1972 school year returned to the regular classroom in September 1972. Three of these returned to Milwaukee Public Schools, one upon the recommendation of the LaVarnway staff and two of their own accord. All three students remained in the regular classroom for the 1972-1973 school year. The objective was met.

Product Objectives	Procedures	Findings
7. Average daily attendance for students in the Milwaukee Public Schools/ Boys' Club Program during the 1972-1973 school year will be equal to or greater than the average daily attendance for the Milwaukee Public Schools junior high schools in the Model Cities Neighborhood.	Milwaukee Public Schools' attendance records for the three Model Cities junior high schools and the Boys' Club Program were reviewed and compared.	Average daily attendance for the students in the Milwaukee Public Schools/ Boys' Club Program during the 1972-1973 school year was 80%. Average daily attendance for Milwaukee Public Schools junior high schools in the Model Cities Neighborhood was 78%. The objective was met.
8. At least 60% of the program students will be judged through reference to anecdotal records by at least three of four project staff members to have demonstrated improved social interaction with his peers during the program year, as evidenced by a staff survey.	The staff members kept anecdotal records. A staff survey was designed.* The staff members completed the survey after reference to the anecdotal records.	Analysis of survey responses indicated that six of 26 students, 23%, demonstrated improved social interaction with their peers. The objective was not met.
9. By the end of each semester, at least 80% of students will have volunteered to assist in lunch preparation and clean-up at least two times, as determined by a review of daily sign-up sheets.	The project staff kept records of the students volunteering each day to assist in lunch preparation and clean-up. The students enrolled at LaVarnway during or before November 1972 were used to measure this objective during the fall semester. The objective was not measured during the spring semester because the student lunch duty records were lost.	During the fall semester, 18 of 22 students, 82%, enrolled before November 31, 1972, had volunteered two times for lunch preparation and clean-up.** The objective was met for the fall semester. The objective was not measured for the spring semester. **Students were considered enrolled in the program if they were present on a trial or a permanent basis.

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*See Appendix A, Form 7-8

Product Objectives	Procedures	Findings
10. At the end of each semester, at least 60% of students enrolled in the program will show a positive feeling toward their social and physical environment in the classroom and lunchroom, individual counseling, and camp activities, as measured by a locally devised questionnaire.	An attitude scale* was designed. The students present the days of the interviews were selected at random and asked several questions. In the fall, two judges interviewed each student and decided if the responses to these questions were positive or negative. In the spring, one judge interviewed eight students and the other six students. Each judge made judgments in regard to only those students personally interviewed.	At the end of the fall semester, 15 of the 22 students who were enrolled before November 31, 1972 were interviewed at random. Eighty percent of students interviewed showed a positive attitude. ** At the end of the second semester, 14 of 26 students were interviewed at random. Eighty-six percent of the students interviewed showed a positive attitude. The objective was met for both the fall and spring semesters. The objective was, therefore, met for the 1972-1973 project year. **One judge indicated that 13 of 15 students interviewed showed a positive attitude. The other judge indicated that 11 of 15 students showed a positive attitude. The 80% figure is an average of these proportions.

Process & Management Objectives	Procedures	Findings
11. At the end of the fall and spring camping session at least 75% of students involved in the camping experience will have participated in at least two out of ten conservation/environmental activities.	A staff report form* was developed and distributed to camp staff. Records of student participation in environmental activities were kept by camp staff. The records were reviewed by the department.	In both the spring and fall, 100% of students attending camp participated in at least two environmental activities. The objective was met.

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*See Appendix A, Forms 7-10, 7-11

Process & Management Objectives	Procedures	Findings
12. Project personnel in cooperation with the Boys' Club Camping Director will plan the camping experience and initiate camp activities by October 2nd in fall and May 21st in spring as evidenced by the Environmental Education Coordinator's records.	The coordinator's records were reviewed to determine when the camp began in the fall and in the spring.	Camp activities were initiated on October 2, 1972 and on May 21, 1973. The objective was met.
13. Project personnel and the appropriate consultants will screen and select at least 15 students to be enrolled in the program by October 2nd as evidenced by the Environmental Education Coordinator's records.	The coordinator's records were reviewed to determine those students enrolled in the program by October 2nd.	Review of the coordinator's records revealed that 15 students were enrolled in the program by October 2, 1972.** The objective was met. **Of the 15 students enrolled by October 2nd, nine were permanently enrolled and six were on a trial basis. Of the 30 students enrolled in the program by the end of the first semester, 22 were permanently enrolled and eight were on a trial basis. Those on a trial basis were subsequently permanently enrolled in the program.

Process & Management Objectives	Procedures	Findings
14. By the end of the first semester project staff and appropriate consultants will complete the screening and selection process and program enrollment will total 30 students as evidenced by the Environmental Education Coordinator's records.	The coordinator's records were reviewed to determine those students enrolled in the program by the end of the first semester.	Review of the coordinator's records revealed that 30 students were enrolled in the program by the end of the first semester.** The objective was met. **Of the 15 students enrolled by October 2nd, nine were permanently enrolled and six were on a trial basis. Of the 30 students enrolled in the program by the end of the first semester, 22 were permanently enrolled and eight were on a trial basis. Those on a trial basis were subsequently permanently enrolled in the program.
15. At the end of the fall camping session, staff members will submit in writing to the program director and Environmental Education Coordinator at least five suggestions for changes in camp operation and/or program as evidenced by the Environmental Education Coordinator's records.	The coordinator's records were reviewed to determine if staff members submitted in writing at least five suggestions for changes.	Review of the coordinator's records indicated that staff members submitted in writing eight suggestions for change. The objective was met.

Process & Management Objectives	Procedures	Findings
16. At the end of the fall and spring camping session, staff members will submit in writing to the program director and Environmental Education Coordinator at least five successful camp operations and/or program activities, as evidenced by the Environmental Education Coordinator's records.	The coordinator's records were reviewed to determine if staff members submitted in writing at least five successful camp operations and/or program activities.	At the end of the fall camping session, staff members submitted in writing 13 successful camp operations and/or program activities. At the end of the spring camping session, staff members submitted in writing 25 successful camp operations and/or program activities. The objective was met.
17. The program teachers will meet at least three times during the school year with parents of each student participating in the Milwaukee Public Schools/Boys' Club Program, as evidenced by the program director.	The program teachers submitted records from parental conferences to the program director. The evaluator reviewed the records of parental conferences.	Review of the records indicated that program teachers met at least three times during the school year with the parents of two of the 26 students. For the students enrolled prior to January 1, 1973, the criterion was met for one of 17 students. The objective was not met.
18. The program social worker will meet at least two times during each semester with the parents of each student participating in the Milwaukee Public Schools/Boys' Club Program, as evidenced by written records to the program director.	The program social worker submitted records for all parental conferences to the program director. The evaluator reviewed the records of parental conferences.	For the 17 students enrolled prior to January 1, 1973, the social worker met at least two times the first semester with the parents of each student. The objective was met for the first semester.

Process & Management Objectives	Procedures	Findings
		(continued) During the second semester, the social worker met at least two times with the parents of all students enrolled after January 1, 1973. During the second semester, no conferences were recorded with parents of the 17 students enrolled before January 1, 1973. The objective was not met for the second semester.
19. The program director will submit a monthly report of program activities to the Environmental Education Coordinator, as evidenced by the Environmental Education Coordinator's records.	The coordinator's records were reviewed to determine if the program director submitted monthly reports.	During the first semester, the program director did not submit monthly reports to the Environmental Education Coordinator. During the second semester, the program director submitted monthly reports for all months, February through June, that the LaVarnway Center operated. The objective was not met.

COMPONENT EIGHT

Demonstration Farm Pilot Program

Product Objectives	Procedures	Findings
1. Within two weeks after the Demonstration Farm experience at least 75% of the visiting students (Grades 4-6) will indicate a knowledge of human dependence upon the rural environment by answering correctly at least 70% of the questions on a paper and pencil test.	A ten item paper and pencil test* was developed in cooperation with project personnel to measure the knowledge of human dependence upon the rural environment. The instrument was administered to participating students within two weeks after their experience in the farm program. Grades 4-6 participated in fall and Grades 3-5 participated in spring.	In the fall, 13 of the 15 participating classes were asked to take the test; 10 submitted test results. Eighty-two percent of the students completing the test received a score of at least 70%. In the spring, 14 of the 15 participating classes were asked to take the test; 12 submitted test results. Eighty-three percent of the students completing the test received a score of at least 70%. The objective was met for both the fall and spring semesters. The objective was, therefore, met for the 1972-1973 project year.
2. At least 75% of the participating primary classroom teachers will respond to a survey given after the field trip stating that they believe their students (a) are more knowledgeable of the working farm and the farmer's role in today's society, (b) are more aware of the rural environment than before the trip, and (c) have a greater understanding of farm products and farm production methods.	A teacher survey* was developed and distributed to the teachers of primary classes scheduled for a trip to the farm. This survey was completed after the trip.	In the fall six of seven participating teachers responded to the survey. One hundred percent reported that they believed their students were more knowledgeable of the farm and the farmer's role in today's society. One hundred percent reported that they believed their students were more aware of the rural environment than before the trip. Eighty-three percent reported their students have greater understanding of farm products and farm production methods.

*See Appendix A, Forms 8-1, 8-2

Product Objectives	Procedures	Findings
		(continued) In the spring nine of 14 participating teachers responded to the survey. One hundred percent reported that they believed their students were more knowledgeable of the farm and the farmer's role in today's society. One hundred percent reported that they believed their students were more aware of the rural environment than before the trip. Eighty-three percent reported their students have greater understanding of farm products and farm production methods. The objective was met for both the fall and spring semesters. The objective was, therefore, met for the 1972-1973 project year.
3. After the field trip experience has been completed, at least 75% of the primary and intermediate teachers who submit written trip expectations will respond to a survey that, in general, their expected outcomes have been attained.	Participating primary & intermediate classroom teachers were asked to formulate written trip expectations prior to the trip. A teacher survey* was developed and distributed to the participating teachers. This survey was to be completed after the trip.	In the fall, 22 of 26 participating primary & intermediate classroom teachers were asked to respond to the survey. Sixteen formulated written trip expectations and 12 of these responded to the survey. One hundred percent of those responding reported that, in general, their expected outcomes had been attained.

*See Appendix A, Forms 8-2, 8-3

Product Objectives	Procedures	Findings
		(continued) In the spring, 26 of 29 participating primary & intermediate classroom teachers were asked to respond to the survey. Twenty-one formulated written trip expectations and 18 of these responded to the survey. Seventy-eight percent of those responding reported that, in general, their expected outcomes had been attained. The objective was met for both the fall and spring semesters. The objective was, therefore, met for the 1972-1973 project year.

Process & Management Objectives	Procedures	Findings
4. At least 75% of the classes (Grades 4-6) participating in the program will plant a classroom "garden" with supplies provided by the program as evidenced by a teacher survey.	A teacher survey* was developed and distributed to participating intermediate classroom teachers. This survey was to be completed after the field trip.	In the fall, the teachers from 11 of the 15 participating classes were asked to respond to the survey. Zero percent reported having planted a classroom garden.**

*See Appendix A, Form 8-3

Process & Management Objectives	Procedures	Findings
		(continued) In the spring, the teachers from 14 of the 15 participating classes were asked to respond to the survey. Eleven teachers responded to the survey. Eighty-one percent reported having planted a classroom garden. Overall, spring and fall combined, 53% of the respondents reported having planted a classroom garden. The objective was not met during the fall semester, but was met for the spring semester. The objective was not met for the 1972-1973 project year. **Only classes visiting the farm in the spring were supplied with seed and soil. This and the inappropriateness of fall planting activities contributed to the low percentage of classes participating in the planting activities.
5. At least 35% of the students (Grades 4-6) will participate in a planting activity in their school or community within three weeks after the farm visitation.	A student survey* was developed and copies were submitted to the participating intermediate classroom teachers. The teachers were to administer the survey to the students three weeks after the trip to the farm. *See Appendix A, Form 8-5	In the fall, eight of the 11 participating classes submitted survey results. Nine percent of the 195 students completing the survey indicated that they participated in a planting activity in their school or community.**

Process & Management Objectives	Procedures	Findings
		(continued) In the spring, 12 of the 15 participating classes submitted survey results. Eighty-five percent of 255 students completing the survey indicated that they participated in a planting activity in their school or community. Overall, spring and fall combined, 52% of students completing the survey indicated that they had participated in such a planting activity. The objective was not met during the fall semester, but was met during the spring semester. The objective was met for the 1972-1973 project year. **Only classes visiting the farm in the spring were supplied with seed and soil. This and the inappropriateness of fall planting activities contributed to the low percentage of classes participating in the planting activities.
6. At least 85% of the students (Grades 4-6) will actively participate in small group activities on the farm as evidenced by a teacher observation form.	A teacher observation form* was developed and copies were submitted to the participating intermediate classroom teachers. This form was to be completed during the trip to the farm.	In the fall, teachers from 11 of the 15 participating classes were asked to respond to the survey. Six teachers completed the observation form. The teachers reported that 4.4% of their students actively participated in small group activities.

*See Appendix A, Form 8-6

Process & Management Objectives	Procedures	Findings
		(continued) In the spring, teachers from 14 of the 15 participating classes were asked to respond to the survey. Ten teachers responded to the survey. These teachers responded that 32% of the students actively participated in small group activities. The objective was not met for either the fall or spring semester. The objective was, therefore, not met for the 1972-1973 project year.
7. At least 75% of the participating primary classroom teachers will plan to incorporate the "visit to the farm" unit in their classroom unit of study on farming, as determined by a teacher survey.	A teacher survey* was developed in cooperation with project personnel. Survey forms were mailed to the primary teachers participating in the fall and spring farm trips.	Twelve of 18 participating primary teachers completed surveys. One hundred percent of the respondents indicated that they plan to incorporate the "visit to the farm" unit. The objective was met.

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*See Appendix A, Form 8-7

Process & Management Objectives	Procedures	Findings
8. At least 45 classes will participate in the two segments of the Demonstration Farm Program during the 1972-73 school year. Over 50% of the classes will be from the schools serving the Model Cities Neighborhood and approximately 15% of the classes will be from non-public schools in Milwaukee. Approximately one-third of the classes will participate in the A Visit to the Farm segment with two-thirds participating in the Productivity of the Land segment.	A listing of all the participating schools and classes was sent to the department by the program supervisor.	Fifty-five classes participated in the two segments of the Demonstration Farm Program, 26 during the fall of 1972 and 29 during the spring of 1973. Forty-nine percent of these classes were from schools serving the Model Cities Neighborhood; 18% of these classes were from non-public schools. Forty-five percent of the classes participated in the A Visit to the Farm segment with 55% participating in the Productivity of the Land segment. The objective was not met in its entirety. The number of participating classes from non-public schools met the established criterion. Over 50% of the schools originally scheduled for the farm trip were Model Cities Schools, but due to inclement weather, four scheduled trips involving Model Cities Schools were canceled. The farm schedule did not permit a rescheduling of those trips and, therefore, less than 50% of the trips held involved Model Cities Schools. The number of classes participating in the two program components did not meet the expected percentages.

Process & Management Objectives	Procedures	Findings
9. The program supervisor will establish lines of communication with the program personnel at the farm and will submit a monthly progress report to the Environmental Education Coordinator.	The program supervisor's reports to the Environmental Education Coordinator were reviewed.	Environmental Education Farm trips took place in September, October, March, April, and May. The program supervisor submitted reports to the Environmental Education Coordinator for September, October, and June. The objective was not met.

SECTION III

THE PLANNING PROCESS

In the time-line and schedules of the Environmental Education Project, many days throughout the year were spent in administrative planning activities. Because of early deadline dates for the submission of the 1973-74 Continuation Application required by the United States Office of Education, the planning and preparation time schedule had to be condensed into a period of one and one-half months. It was determined by the project director that no groups would be excluded from participation in the planning or needs assessment in spite of the short time period prior to the preparation of the Continuation Application Proposal.

One strong recommendation made in both the Interim and Final Evaluation Audit Reports for the first year of operation was that project personnel move to establish a systematic and definitive needs assessment for the Environmental Education Project, the results of which would then be translated into program objectives.

In response to this recommendation, program and evaluation personnel cooperatively created a needs assessment instrument for use with the various planning groups. Appendix C contains this instrument. These groups were designated as being sensitive to both emerging concepts in environmental education and to the needs of their constituents. The instrument and the process were designed to help determine program direction and to aid in establishing priorities.

The planning and needs assessment processes included meetings with project personnel, program supervisors, the Executive Committee of the Advisory Council, the Advisory Council, the teacher cadre, the student cadre, and the Model Cities Education Committee (see Schedule, Page 123).

PLANNING - CONTINUATION APPLICATION

January and February, 1973

January 3	Project personnel : 1:30 p.m., Room 252 To establish procedures and dates for Continuation Application
January 4	Executive Committee Advisory Council : 4:00 p.m., Rooms 129-136 To prepare for planning role and individual committee involvement
January 9	Model Cities Education Committee : 7:30 p.m. To prepare for Model Cities involvement in planning process
January 8-15	Advisory Council Committee Meetings To assess component committees regarding needs (dates and times to be determined by each chairman)
January 9	Teacher Cadre Meeting : 4:00 p.m., Room 210-211 To prepare for planning role
January 13	Saturday planning, teacher cadre : 8:30 a.m. - 12:00 noon, cafeteria (Needs assessment and planning)
January 18	Student Cadre Meeting : 1:30 p.m. - 4:00 p.m., cafeteria (Needs assessment and planning)
January 19	Executive Committee Advisory Council : 4:00 p.m., Rooms 129-136 (Needs assessment and committee reports)
January 27	Complete planning for Continuation Application
January 29-February 2	Write and revise components. Prepare expenditure reports.
February 5-9	Budgets finalized.
February 5	Begin typing Continuation Application.
February 12	Complete document to Administrative Council and the Administrative Coordinator for categorically-aided programs.

During the two years of program planning, development, and implementation, the involvement and role of the Advisory Council was increasingly expanded to lend support and guidance to the project. In early January, the Council's Executive Committee met to plan the preparation of the 1973-74 Continuation Application Proposal. Original report formats created by the committee for program assessment and planning were revised in preparation for meetings with their respective sub-committee members. Their reports and response to the needs assessment have served as an important basis for program modification to strengthen next year's goals and plans for operation. Members of the council had the opportunity to review this new proposal and to be further informed of evaluation findings and project process at the meeting of the full council held in May, 1973.

In the first project year, students served on various council committees as well as the Mini-Proposal Review Committee. During the second project year, a Student Leadership Development Workshop prepared 60 students to give direction to the project by their involvement in environmental education activities in their school and as members of a city-wide student cadre. Membership of this cadre was expanded during the planning phase to include two to four members from schools that were not already represented. Sixty-three students were involved in responding to the needs assessment and participating in small group discussions about future student involvement in school action, special workshops and seminars, leadership training, and city-wide environmental education activities. Appendix C contains the Student Group Response Sheet. Their ideas and suggestions have greatly enhanced program plans for the 1973-74 project year.

Since the beginning of their involvement, members of the teacher cadre have made major contributions to the evaluation and planning processes. Their participation in giving input to the current proposal was two-fold. In early January, each member was prepared for his role in the development of the plan and given a report format which would reflect the needs and concerns of surveyed students, teachers, and administrators within his or her school community. At a special Saturday meeting, each cadre member was asked to report these concerns in small group discussions organized for each component. At this time, each cadre member was also involved in responding to the formal needs assessment instrument.

In January, the project director briefed the Model Cities Resident Council Standing Committee on Education on project progress, the planned needs assessment, and plans for the preparation of the 1973-74 Continuation Grant Proposal. At this meeting, suggestions for program modification were received. The committee then voted to direct the agency to prepare and sign a Certification of Model Cities Relatedness Form to accompany the Continuation Application.

During the second project year's negotiation meeting with the United States Office of Education Program Officer, it was pointed out that the proposal for the 1972-73 project did not include a plan for the continuous assessment of needs. Since that time, a concerted effort has been made and will continue to be made to consistently involve target populations in evaluative activities to determine ways programs can more effectively meet expressed needs to further expand the impact of environmental education programs.

During the spring semester of the 1972-73 project year, the evaluator, working in cooperation with a programmer of the data processing division, developed a procedure for needs assessment based upon the Houston Needs Assessment System and utilizing the computer for analysis and scoring. Appendix D contains a brief description of this procedure. It is anticipated that this procedure will be employed to assess environmental education needs during the third project year. This procedure can be employed at other appropriate times in the future.

SECTION IV

MODEL CITIES INVOLVEMENT

The United States Office of Education charged the Milwaukee Public Schools with the responsibility of involving the Model Cities Neighborhood Schools in the operation of the Environmental Education Program. It is important, therefore, that comments be made on the Model Cities involvement during each project year.

The Model Cities Agency was involved during developmental stages of the formal proposal. The Director of Comprehensive Planning of this agency attended the first meeting with the United States Office of Education in Chicago in April, 1971. The first formal proposal was submitted to and approved by the Education Committee of the Model Cities Resident Council prior to its submission to the United States Office of Education. Subsequent proposals have followed the same procedures.

In the Spring of 1972, the Model Cities Resident Council Standing Committee on Education scheduled a briefing meeting involving the Environmental Education project director for late fall. In the fall, the committee was, however, deeply involved in inservice training sessions and third-year planning for Model Cities. Arrangements were, therefore, made for an early January meeting. The January meeting included a slide presentation giving a complete overview of the project. The project director also briefed the committee on project progress, the planned needs assessment, and plans for the preparation of the 1973-74 Continuation Grant Proposal. At this meeting, suggestions for program modification were received.

The Committee then voted to direct the agency to prepare and sign a Certification of Model Cities Relatedness Form to accompany the Continuation Application.

A member of the agency staff was appointed in the Spring of 1972 to serve on the Advisory Council for the remainder of the year and for the coming year. This appointee subsequently became an active member of the handicapped component subcommittee. In addition, the Chairman of the Resident Council represents this citizen group on the Environmental Education Advisory Council and was assigned to the Urban Field Trip Sub-Committee.

The chairman of the Environmental Education Council is a Model Cities Neighborhood resident. His membership on the council is a means by which residents of the area can voice concerns regarding environmental education.

The following information summarizes, to date, the Model Cities involvement by component in the 1972-73 project year:

Component 1 - Teacher Leadership Workshop

In order to have greater impact on the Model Cities Neighborhood, trained cadre members from Cluster IIIB continue to be active in schools serving this population. This Model Cities Cluster has doubled its number to four elementary school cadre members. In addition, there are two cadre members serving in junior high schools and three serving West Division High School. An elementary school principal and a secondary school principal also attended the workshop as representatives of schools serving the Model Cities Neighborhood. Two agency persons attended the 1971 workshop at UW-GB. Agency representatives were invited to attend the 1972 training session but were unable to attend. The agency director has addressed the cadre to explain the goals, objectives, and projects in operation within the Model Cities Program.

Component 2 - Inservice Workshops

Invitations to participate in the Television Inservice Workshop were extended to agency personnel and Resident Council members. Six persons responded and participated in the Fall Encounters Workshop. One of the eight sessions of the Spring Television Inservice Workshop was devoted to the urban environment. Problems and needs of the Model Cities Neighborhood and its residents along with Model Cities programs to meet these needs were stressed. Four teachers from Model Cities Neighborhood Schools attended the

Encounters Workshops while one teacher from a Model Cities Neighborhood School attended the Television Workshop.

Component 3 - Curriculum Development Workshop

New curriculum guides in Math, Chemistry, Language Arts, and Home Economics have been distributed throughout the Model Cities Schools. Curriculum materials developed by members of the cadre serving the Model Cities Neighborhood are designed to reflect the needs of schools in the neighborhood. The urban field trip package includes locations within the Model Cities Neighborhood and materials related to these areas. The package is intended to develop in children an awareness of the inner-city environment, especially within the Model Cities area.

Environmental education cadre members at West Division High School developed a course in environmental issues which was piloted during the 1972-73 school year.

Component 4 - Open-End Grant Program

The co-chairman of the Environmental Education Advisory Council Mini-Proposal Sub-Committee is the principal of West Division, a high school serving the Model Cities Neighborhood. The co-chairman continues to be instrumental in reflecting needs of the Model Cities Neighborhood in the development of this component and of the revision of the mini-proposal handbook used by students and teachers.

The first mini-proposal to be funded under this component came from West Division. An air pollution monitoring station continues to operate at the school. Of the 17 proposals approved during the second funding year, three are from schools either serving or located in the Model Cities Neighborhood. Thirteen approved projects from last year were still in operation during the school year; seven Model Cities Schools are involved.

Component 5 - Field Trip Pilot Program

The Urban Field Trip Pilot Program was designed to acquaint children with their urban environment. The pre- and post-trip activities placed emphasis on the problems facing the Model Cities Neighborhood and the programs in operation to meet those needs. The field trip itself included major points of interest within the Model Cities Neighborhood and a stop within the Model Cities Neighborhood to explore land use, housing patterns, economic changes, cultural opportunities, recreational facilities, etc.

Thirty-five classes from 15 public and non-public schools serving the Model Cities Neighborhood participated in the Fall, 1972, program. Twenty-one classes from 11 public schools serving the Model Cities Neighborhood participated in the Spring, 1973, program. Twenty-seventh Street and Pierce Schools participated in the Summer Field Trip Program during 1972.

Component 6 - Student Involvement Program

The summer school course in Environmental Issues and the workshop in

Student Leadership Development held in July, 1972, were publicized throughout the secondary schools in the Model Cities Neighborhood. Only a few students from these schools responded to these enrichment opportunities.

Component 7 - Exceptional Education/Handicapped Program

Twenty-six students were enrolled in the program at the end of the school year. Twelve of these students live in the Model Cities Neighborhood.

Component 8 - Demonstration Farm Pilot Program

One objective of this component is that over 50% of the schools participating in the fall and spring farm programs will be from schools that serve children who live in the Model Cities Neighborhood. In the fall, 12 classes in six schools of the 26 classes in 15 schools were from Model Cities Neighborhood Schools, while, in the spring, 13 classes in seven schools were from Model Cities Neighborhood Schools. Inclement weather forced the cancellation of trips by four Model Cities Neighborhood Schools involving eight classes.

SECTION V

NON-PUBLIC SCHOOLS AND OTHER COMMUNITY INVOLVEMENT

Non-Public Schools

In an effort to involve all educators in the city in the Environmental Education Project, non-public schools were invited to become involved and a means for their participation was built into the formal proposal. The following is a summary, by component, of their involvement during the project year:

Component 1 - Teacher Leadership Workshop

Workshop opportunities were publicized in the conversations that were held with personnel of Catholic and Lutheran Systems to acquaint them with the component and possible involvement. One teacher from the Catholic School System was trained in the summer workshop in Green Bay and was an active member of the Environmental Education Cadre.

Component 2 - Inservice Workshops

Phone and letter contacts were made with Catholic, Lutheran, and Community School administrative personnel regarding involvement of non-public school teachers in the Environmental Education Television Inservice Workshop and the Environmental Encounters Inservice Workshop. Permission was received from Catholic, Lutheran, and Community Schools to send information to all principals in their respective systems. Three Community School teachers attended the Fall Encounters Workshop. Four non-public school teachers, all from the Catholic System, attended the Spring Encounters Workshop. Two non-public school teachers, both from the Catholic System, attended the Television Workshop.

Component 3 - Curriculum Development Workshop

Curriculum materials have been made available to all non-public schools. Means of distribution were explored with administrative personnel from the Catholic and Lutheran Systems and the curriculum guides published in fall were disseminated through the established channels. All non-public school personnel will be informed of televised curriculum specials as they are developed.

Component 4 - Open-End Grant Program

All K-12 schools (both public and non-public) were invited to participate in this program. Mini-proposal handbooks, proposal forms, and routing sheets were sent to all principals along with a cover memo inviting their school to participate. Permission to send this material was sought from administrative personnel in non-public systems through written correspondence. Materials publicizing the program were sent out from the administrative offices of the Catholic System. Schools have been requested to contact the Environmental Education Office for additional information and suggestions for proposals. A proposal was received from a non-public school during the Spring of 1973.

Component 5 - Field Trip Pilot Program

This component was piloted by those schools, public and non-public, serving the Model Cities Neighborhood. Of the 35 schools participating in the fall, eight were non-public schools. Of the eight schools, four were Catholic Schools, two were Lutheran Schools, and two were Community Schools. Of the 35 schools participating in the spring, five were non-public schools. Of the five schools, three were Catholic Schools and two were Community Schools.

Component 6 - Student Involvement Program

Summer courses and workshops in Environmental Issues and Student Leadership Development were publicized by distributing flyers throughout the non-public school systems. Only a few students representing this population attended.

Component 7 - Exceptional Education/Handicapped Program

This program draws its population primarily from junior and senior high schools associated with the Model Cities Neighborhood. Opportunity for non-public school involvement exists, but none of the students selected during the second year are from non-public schools.

Component 8 - Demonstration Farm Project

All elementary schools, public and non-public, in the city are eligible to participate with over 50% of the schools selected from the Model Cities Neighborhood. Four non-public schools participated in the fall farm program, three from the Catholic System and one from the Lutheran System. Four non-public schools participated in the spring farm program, all from the Catholic System.

The Environmental Education Coordinator established lines of communication with representatives of each of the non-public school systems. Contacts were made by letter and telephone with the two Lutheran School Systems, the Catholic

School System, and Community Schools. In Spring, 1972, the Catholic Office of Education assigned an assistant to the Superintendent with responsibility for federal programs. The Environmental Education Coordinator met with this assistant to acquaint him with the project and to explore ways of increasing participation. The assistant to the Superintendent continues to act as liaison between the Catholic Schools and the Environmental Education Project. He has helped to disseminate curriculum materials and guides, establish time schedules, publicize the Environmental Issues Summer School Workshop for high school students, the Leadership Development and Inservice Workshops for teachers, and the Open-End Grant Program during this project year.

Greater participation by non-public school systems is being encouraged and additional means of promoting such involvement continue to be explored.

Community Involvement

One important aspect of a project of this nature is the involvement of community groups, agencies, and individuals. As specified in the federal guidelines and the Master Plan, an Environmental Education Advisory Council was to be formed to help guide and lend support to the project. This council was formed and continues to remain active in the second project year.

In September, sub-committees for each of the eight components and for evaluation were reorganized and new members recruited as needed. The Executive Committee which is made up of sub-committee chairmen gives direction to the project and has determined ways the membership could be expanded to involve additional environmental groups.

Additional students, new cadre members, and community persons were added to the Advisory Council in fall bringing the number of members to 63. The council now consists of seven parents, four community group representatives, four representatives from business and industry, and nine representatives of state or municipal agencies. The membership also includes 23 educators: 11 Milwaukee Public Schools supervisory staff members, six teachers, three principals, and three representatives from higher education institutions.

In October, 1972, the council's activities began with an orientation session for all members. This orientation meeting included a slide presentation by subcommittee chairmen who gave an overview of the entire project, introduced project personnel, distributed pertinent materials, explained the council's function and purpose, and presented the proposed calendar of council activities for the 1972-73 program year.

Prior to the orientation, the Executive Committee participated in project monitoring and evaluation, restructuring of committees, and planning for the orientation meeting and the calendar of council activities. In December, the Executive Committee met to critique the 1971-72 evaluation report and help in the preparation of a program response statement. In early January, this committee met again to prepare for its role in the preparation of the 1973-74 Continuation Grant Proposal and participation in the formal needs assessment. At that time, they revised their original working documents for program assessment and planning. Each member then met with his respective committee, utilizing the structured assessment and reporting formats, and then submitted committee reports which have served as input for the modification and strengthening of next year's plan of operation.

The full council met again in February and May to review the new document and to be further informed of project progress. Members reviewed the film "We Can Make It Happen" produced in cooperation with two secondary schools, North and Audubon, and reviewed a televised curriculum special dealing with the farm trip (Component 8).

Community involvement was not limited to the Advisory Council alone. Many agencies, groups, and individuals continue to lend their support to the project. Examples of the variety of involvement are: (1) aid in the establishment of several mini-grant projects by the Milwaukee County Pollution Control Board, (2) the supplying of materials for classroom use in the Field Trip Program and overall program by the Milwaukee Health Department, the United States Forest and Soil Conservation Services, St. Regis Paper Company, offices of the city and county, the Department of Natural Resources, and the Milwaukee Chapter of the Wisconsin Garden Clubs, and (3) the provision of materials and/or sites for the Urban Field Trip by such groups as the Afram Brothers Company, Wisconsin Electric Power Company, the Marine Bank, Model Cities Agency, and the public relations firm of Zigmann-Joseph Associates.

Numerous agencies and groups were kept informed of project activities in order to foster cooperative or supportive ventures. Results of this type of activity thus far in this project year include: (1) an Encounters Workshop for teachers, administrators, and members of the community on the topic of Solid Waste Management sponsored in cooperation with faculty members at the University of Wisconsin-Extension and Environmental Resource Center, (2) a ten-day summer workshop for teachers planned in cooperation with the University of Wisconsin-Milwaukee School of Engineering, and (3) a city-wide wildlife habitat planting program sponsored by the Milwaukee Kiwanis Club. Resource persons from business and industry, city, and county public officials; representatives of governmental agencies; and community action organizations have been utilized in these endeavors.

Private business and industrial groups were involved from the onset in the formulation of this project. Their continuing support lends direction and expertise to the project and provides a resource for additional funds. In January, 1972, the Schlitz Foundation donated $50,000 to be used in the overall Environmental Education Program for mini-proposals, teacher training, and curriculum development activities. Wisconsin Chemical and Metal Company and the Continental Can Company in cooperation with the Zigmann-Joseph Public Relations Firm assisted the Junior Inter-High Council in sponsoring an all-city can recycling drive. The A. O. Smith Corporation developed and disseminated to all secondary schools a slide/tape presentation entitled "How to Grow a Corporate Building".

In addition, there was considerable interest in this project on the part of several related state, regional, and national groups. Since Milwaukee is serving as a model project, these groups continue to show interest in the progress of this endeavor in environmental education.

Appendix A

Instrumentation

Appendix A contains and describes the instrumentation and data collection forms used to gather information relevant to component objectives.

An index identifies each form by component and objective, and presents reliability and validity data for each form. The forms are indexed in numerical order by objective within component. For example, Form 1-1 appears first in the index and refers to the form used with Component 1, Objective 1. The forms follow the index in the same order, and the first page of each form contains the form numbers in the upper right-hand corner.

INSTRUMENTATION

Component	Objective	Instrument	Validity and Reliability
1	1	Cadre Questionnaire Form 1-1	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: No reliability assessment was made.
1	4	School Action Plan Report (elementary) Form 1-2	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: No reliability assessment was made.
1 6	4 2-3-4-5	Secondary School Action Report Form 1-4	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: No reliability assessment was made.
1	5	Milwaukee Teacher Environmental Education Workshop, July, 1972 Form 1-5	Validity: The test was constructed by members of the UW-GB staff. Reliability: No reliability assessment was made.
1	6	Teacher Leadership Workshop Evaluation Form 1-6	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: No reliability assessment was made.
2	1	Environmental Education Television Inservice Workshop Teacher Rating Scale Form 2-1	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: No reliability assessment was made.

Component	Objective	Instrument	Validity and Reliability
2	2	Environmental Education Curriculum Materials Effectiveness Rating Survey Form 2-2	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: No reliability assessment was made. The survey was administered to a population of four.
2	3	Television Inservice Workshop Environmental Practices Scale Form 2-3	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: The Kuder-Richardson 20 reliability coefficient was .85 for the pretest and .79 for the posttest.
2	4	Environmental Education Television Inservice Workshop (Part of instrument used for Component 2, Objective 1) Form 2-1	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: No reliability assessment was made.
2	5	Environmental Education Television Inservice Workshop (Part of instrument used for Component 2, Objective 1) Form 2-1	Validity: A draft of the scale was developed by the evaluator. This draft was reviewed and critiqued by program personnel; scale modification and revision then took place. Reliability: Four one-item scales were used to supply information for the report: (1) Knowledge, (2) Values and Attitudes, (3) Milwaukee Environmental Problems and Solutions, and (4) Method of Instruction. Three nine-item scales, (A) Knowledge, (B) Values and Attitudes, and (C) Milwaukee Environmental Problems and Solutions, measure, respectively, the same opinion as the three one-item scales, 1, 2, and 3. A twelve-item scale, (D) Method of Instruction, measures the same opinion as the one-item scale, 4. Correlations

<table>
<tr><th>Component</th><th>Objective</th><th>Instrument</th><th>Validity and Reliability</th></tr>
<tr><td>2</td><td>5 (Cont'd)</td><td></td><td>between scales 1 and A, 2 and B, 3 and C, and 4 and D are presented in the correlation matrix that follows and given an indication of the reliability of the scales 1, 2, 3, and 4.
Scale values used were: 4 = Very Effective
3 = Effective
2 = Small Effect
1 = Not Effective At All
Correlation Matrix
<table>
<tr><th></th><th>A</th><th>B</th><th>C</th><th>D</th></tr>
<tr><td>1</td><td>.65</td><td></td><td></td><td></td></tr>
<tr><td>2</td><td></td><td>.53</td><td></td><td></td></tr>
<tr><td>3</td><td></td><td></td><td>.22</td><td></td></tr>
<tr><td>4</td><td></td><td></td><td></td><td>.15</td></tr>
</table></td></tr>
<tr><td>2</td><td>6</td><td>Environmental Encounters Inservice Workshop Teacher Rating Scale
Form 2-6</td><td>Validity: A draft of the scale was developed by the evaluator and Lavern Forest of the University of Wisconsin Extension Center. This draft was reviewed and critiqued by program personnel. Scale modification and revision then took place.
Reliability: Four one-item scales were used to supply information for the report: (1) Knowledge III, (2) Knowledge IV, (3) Value and Attitudes III, and (4) Method of Instruction II. The three eight-item scales, (A) Knowledge II, (B) Value and Attitude II, and (C) Method of Instruction I, measure, respectively, the same opinion as the three one-item scales 1, 3, and 4. Correlations between scale 1 and scale A, scale 3 and scale B, and scale 4 and scale C, give an indication of the reliability of the scales 1, 3, and 4.</td></tr>
</table>

Component	Objective	Instrument	Validity and Reliability
2	6 (Cont'd)		Scale values used were: 4 = Very Effective 3 = Effective 2 = Small Effect 1 = Not Effective At All Correlation Matrix $\begin{array}{cccc} & A & B & C \\ \hline 1 & .69 & & \\ 3 & & .63 & \\ 4 & & & .86 \end{array}$
2	9	Environmental Education Television Inservice Workshop (Part of instrument used for Component 2, Objective 1) Form 2-6	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: The Kuder-Richardson 20 reliability was .91.
3	1	Environmental Issues Course Teacher Rating Scale Form 3-1	Validity: The scale was developed by the evaluator and reviewed by program personnel. Reliability: No reliability assessment was made. The survey was administered to a population of three.
3	3	Teacher Survey Curriculum Specials Form 3-3	Validity: The scale was developed by the evaluator and reviewed by program personnel and curriculum supervisors. Reliability: The correlation between a seven-item scale and a one-item scale measuring the same opinion was .63.

Component	Objective	Instrument	Validity and Reliability
3	4	Curriculum Supervisor's Survey Form 3-4	Validity: The survey form developed and used last year was reviewed by the evaluator and program personnel. The survey form was revised for use in this year's evaluation. Reliability: No reliability assessment was made. The survey was administered to a population of nine.
3	6-7	Environmental Education Curriculum Materials Effectiveness Rating Scale Form 3-6	Validity: The scale was developed by the evaluator and reviewed by program personnel and curriculum supervisors. Reliability: The correlation between a nine-item scale and a one-item scale measuring the same opinion was .82.
3	10-12	Curriculum Development Workshop Participant Questionnaire Form 3-10	Validity: The form was developed by the evaluator and reviewed by program personnel. Reliability: No reliability assessment was made.
4	1-3-5	Mini-Proposal Audit Form 4-1	Validity: The form was developed by the evaluator and reviewed by program personnel. Reliability: No reliability assessment was made.
4	2	Open-End Grant Program Mini-Proposals Form 4-2	Validity: The form was developed by the evaluator and reviewed by program personnel. Reliability: No reliability assessment was made.
4	4	Environmental Education Instrumentation Program Student Participation List Form 4-4	Validity: The form was developed by the evaluator and reviewed by program personnel. Reliability: No reliability assessment was made.

Component	Objective	Instrument	Validity and Reliability
5	1	Urban Field Trip Test Form 5-1	Validity: A pool of test items was developed by the evaluator and the trip guide. The item pool was reviewed and critiqued by elementary and science supervisors and program personnel. Thereafter, item revision took place and the final items were selected. Reliability: The Kuder Richardson 20 reliability coefficient was .587 for the pretest and .735 for the posttest.
5	2	Urban Field Trip Pilot Program Teacher Checklist Form 5-2	Validity: The form was developed by the evaluator and program personnel. Reliability: No reliability assessment was made.
5	3	Urban Field Trip Pilot Program Teacher Questionnaire Form 5-3	Validity: The questionnaire was developed in cooperation with the pilot trip guide and program personnel. Reliability: No reliability assessment was made.
5	4	Secondary Field Trip Program Teacher Follow-Up Activity Record Form 5-4	Validity: The form was developed by the evaluator and program personnel. Reliability: No reliability assessment was made.
5	5	Secondary Field Trip Test (nine separate tests) Form 5-5	Validity: The tests were developed in cooperation with the Environmental Education Coordinator, the technical assistant, and trip sponsors. Reliability: No reliability assessment was made.
5	6	Secondary Field Trip Program Student Suggestion Form Form 5-6	Validity: The form was developed by the evaluator and reviewed by program personnel. Reliability: No reliability assessment was made.

Component	Objective	Instrument	Validity and Reliability
6	1	Milwaukee Environmental Problems Student Questionnaire Form 6-1	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: No reliability assessment was made.
6	2-3-5	Secondary School Action Report Form 4-1	Validity: The form was developed by the evaluator and reviewed by program personnel. Reliability: No reliability assessment was made.
6	7	Student Leadership Workshop Student Questionnaire Form 6-7	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: The responses for Item 1 were correlated with the responses (sum of response values for first nine items in two) on Item 2. Scale values used were: 5=Very Effective, 4=Effective, 3=Uncertain, 2=Ineffective, and 1=Very Ineffective. The correlation was .265.
6	8	Environmental Issues Workshop Student Questionnaire Form 6-8	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: The responses for Items 3 and 4 were correlated with the responses (the mean response for the scale items) for Item 1. Scale values used were: 5=Very Effective, 4=Effective, 3=Uncertain, 2=Ineffective, and 1=Very Ineffective. The correlation matrix follows.

Correlation Matrix

	1	2	4
1	1	.599	.448
2		1	.679
4			1

Component	Objective	Instrument	Validity and Reliability
7	1	Camping Program 1972-73 Student Survey Form 7-1	Validity: The classroom teacher explained the intent of the survey to the LaVarnway students completing the survey. Reliability: No reliability assessment was made.
7	8	LaVarnway Staff Survey Form 7-8	Validity: The form was developed by the evaluator and reviewed by program personnel. Reliability:
7	10	Panel Rating Form Form 7-10	Validity: A draft of the Panel Rating Form was developed by the evaluator. The draft was reviewed and critiqued by program personnel and a psychologist. A revision of the draft was made. Reliability: No reliability assessment was made.
7	11	1972 Fall Camping Form Teacher Record Form 7-11	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: No reliability assessment was made.
8	1	Fall Demonstration Farm Trip Student Test Form 8-1	Validity: The test designed and used last year was reviewed by the evaluator and program personnel. Revisions were then made. Reliability: The Kuder-Richardson 20 reliability was .485.
8	2-3	Fall Demonstration Farm Trip Teacher Survey Form 8-2	Validity: The test designed and used last year was reviewed by the evaluator and program personnel. Revisions were then made. Reliability: No reliability assessment was made.

Component	Objective	Instrument	Validity and Reliability
8	3-4	Fall Demonstration Farm Trip Teacher Survey Form 8-3	Validity: The test designed and used last year was reviewed by the evaluator and program personnel. Revisions were then made. Reliability: No reliability assessment was made.
8	5	Fall Demonstration Farm Trip Student Survey Form 8-5	Validity: A survey draft was designed by the evaluator and reviewed by program personnel. Revisions were then made. Reliability: No reliability assessment was made.
8	6	Fall Demonstration Farm Trip Teacher Observation Form Form 8-6	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: No reliability assessment was made.
8	7	Demonstration Farm Trip Teacher Survey Form 8-7	Validity: The questionnaire was developed by evaluation personnel and reviewed by program personnel. Reliability: No reliability assessment was made.

Form 1-1

CADRE QUESTIONNAIRE

Environmental Values

You are asked to think about your environmental values (i.e., the relative importance you place on certain environmental concerns). An example of a value might be your belief that freeways should not pass through recreation areas. You may have experienced value changes regarding green belts, ecological relationships, population control, urban environment, solid waste disposal, water quality, air quality, transportation and land use, quality of life, or the energy crisis.

Question: Have you experienced any change in environmental values as a result of this workshop session? ____Yes ____No

If no, you need not continue with this questionnaire.

If yes, please indicate the specific change(s) in your environmental values made by the workshop.

Environmental Value Held Prior To Workshop	Change In This Environmental Value Made By Workshop

Form 1-2

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

SCHOOL ACTION PLAN REPORT
(To be completed by elementary
faculty cadre members)

Please complete and return this status report by June 8th.

* * *

School Action Plans

1. Do you have a School Action Plan?

   Yes ☐ No ☐

2. Do you have a Cluster Action Plan?

   Yes ☐ No ☐

3. Are the School and Cluster Action Plans one and the same?

   Yes ☐ No ☐

School Action Plan Objectives

If you have a School Action Plan, please restate below the one or two priority objectives and the original scheduled completion dates.

		Please check one.			
		A	B	C	D
Objective	Original Scheduled Completion Date	Completed On Schedule	Completed Later Than Scheduled	Not Completed But On Schedule	In Progress On A Revised Schedule
1.					
2.					

If you checked "B" (Completed Later Than Scheduled), give the reasons why the activity or objective was not completed as scheduled and the actual completion date.

Reasons	Completion Date
1. ____________	____________
2. ____________	____________

If you checked "D" (In Progress On A Revised Schedule), give the reasons revisions were necessary and the revised completion date (please attach the revised schedule to this status report).

Reasons for Revisions	Revised Completion Date
1. ____________	____________
2. ____________	____________

* * *

SCHOOL ____________

CADRE SIGNATURES ____________

____

Form 1-4

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

SECONDARY SCHOOL ACTION REPORT

(To be completed cooperatively by
student and faculty cadre members)

Please complete and return this status report by June 8th.

* * *

School Action Committees

1. Have you organized a School Action Committee of students and teachers?

   Yes ☐ No ☐

2. If your answer to the above is "Yes", please check the months in which at least one School Action Committee meeting was held.

   September ☐ October ☐ November ☐ December ☐ January ☐
   February ☐ March ☐ April ☐ May ☐ June ☐

Student Involvement

Check listed students attending your school in 1972-73. For each student checked, list up to three environmental activities constructively participated in by the student. Write none, if a student did not constructively participate in any environmental activities.

Student	Check Students Attending Your School in 1972-73	List up to three activities this student constructively participated in.		
		1st Activity	2nd Activity	3rd Activity

Student	Check Students Attending Your School in 1972-73	List up to three activities this student constructively participated in.		
		1st Activity	2nd Activity	3rd Activity

Student Leadership

Check listed students attending your school in 1972-73. For each student checked, list up to three environmental activities that the student played a leadership roll in. Write none, if a student did not play a leadership role in any environmental activities.

Student	Check Students Attending Your School in 1972-73	List up to three activities this student played a leadership role in.		
		1st Activity	2nd Activity	3rd Activity

Student	Check Students Attending Your School in 1972-73	List up to three activities this student played a leadership role in.		
		1st Activity	2nd Activity	3rd Activity

School Action Plans

1. Do you have a School Action Plan?

   Yes ☐ No ☐

2. Do you have a Cluster Action Plan?

   Yes ☐ No ☐

3. Are the School and Cluster Action Plans one and the same?

   Yes ☐ No ☐

School Action Plan Objectives

If you have a School Action Plan, please restate below the one or two priority objectives and the original scheduled completion dates.

Please check one.

Objective	Original Scheduled Completion Date	A	B	C	D
		Completed On Schedule	Completed Later Than Scheduled	Not Completed But On Schedule	In Progress On A Revised Schedule
1.					
2.					

If you checked "B" (Completed Later Than Scheduled), give the reasons why the activity or objective was not completed as scheduled and the actual completion date.

Reasons	Completion Date
1. ______________________	____________
______________________	
2. ______________________	____________
______________________	

If you checked "D" (In Progress On A Revised Schedule), give the reasons revisions were necessary and the revised completion date (please attach the revised schedule to this status report).

Reasons for Revisions	Revised Completion Date
1. ______________________	____________
______________________	
2. ______________________	____________
______________________	

* * *

SCHOOL ______________________________________

CADRE SIGNATURES ______________________________________

____

STUDENT CADRE SIGNATURES ______________________________________

____

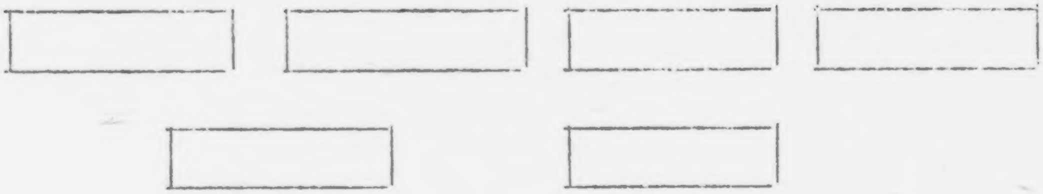
Form 1-5

MILWAUKEE TEACHER ENVIRONMENTAL EDUCATION WORKSHOP

JULY 1972

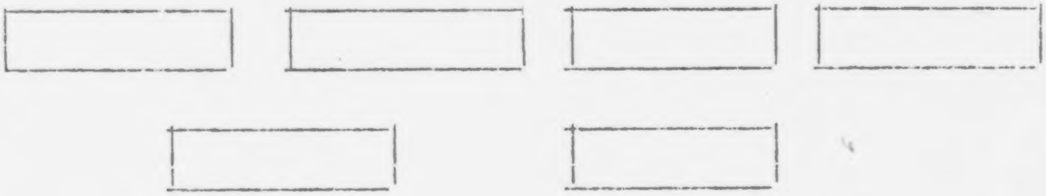
NAME ______________________________

1.



Use the following terms and appropriate arrows in the above diagram to produce a model of the ecosystem: Producers, Decomposers, Nutrient Sink, Energy Source, Primary and Secondary Consumer

2.



Replace the above terms with an appropriate example for each component.

3.

Use arrows to appropriately describe the difference between the minerals and energy relationships in this part of an ecosystem.

4. Man tends to (shorten/lengthen) food chains, thus making the system (more/less) efficient in using energy.

5. How would you explain the statement "It takes 1000 lbs. of corn to produce ten pounds of boy via McDonald's hamburgers"?

6. Give one example of an answer to the population problem from each of the following areas:

Natural

Technological

Legal

7. List three factors that tend to reduce population growth rate in developed countries.

8. Explain the equation D = N x I

9. The population of Guatemala is about 5,000,000; the population doubles every 20 years. What will the population be in 2072?

10. What problem is associated with using the "piece-meal" approach in constructing an interstate highway?

11. List three effects of interstate highways on a city.

12. List four examples of how people purchase privacy.

13. You have just found out that your blind date for the evening enjoys living in his/her high-rise apartment. What emage does this project about his social character?

14. What kinds of information should an architect obtain from his client before designing a home?

15. Give two purposes of a green belt.

16. What is a more attractive alternative to establishing a green belt around a city?

17. What is the purpose behind movies like "Tree House" and "Cry of the Marsh"?

18. Why does DDT increase in concentration in organisms at higher levels on the food chain?

19. What are some of the conflicting problems associated with cleaning up the Fox River?

20. What general types of pollutants does man put in the water?

21. Los Angeles smog is produced by pollutants coming from ______________________.

22. One of the major components of London smog is ____________________.

23. How does a thermal inversion intensify air pollution problems in a city?

24. The fossil fuel producing the smallest amount of air pollution is ____________ ____________.

25. List three methods of disposing of solid waste. Which was considered by Mr. Griesmer (the "can man") to be the most effective?

26. List three reasons why an aluminum container should be a "no-no".

27. The most costly item in the field of solid waste management is ______________ ____________________.

28. The (burner/breeder) reactors produce more fuel than they consume. At the present time nearly all nuclear reactors are (breeder/burner)-type reactors.

29. Give two reasons why electrical consumption is increasing in the United States faster than the population is.

30. The (fossil fuel/nuclear) power plants make the most efficient use of the heat produced to generate electricity.

31. If the demand for electric power increases sharply in Milwaukee on a hot afternoon, indicate the two possible ways at the present time the power company has to meet the demand.

32. Indicate two ways in which advertising promotes environmental problems.

Form 1-6

Milwaukee Public School Teacher
Yes ☐ No ☐

Topic____________________
Instructor__________________

TEACHER LEADERSHIP WORKSHOP EVALUATION

Directions: Please respond as a group to this questionnaire. Discuss your reactions to Item 1 and agree upon the most appropriate answer. For Item 2 note the reactions of group members to the day's workshop session.

1. How much information or knowledge about the environment did you acquire from today's workshop?

_____Very Much
_____Much
_____Some
_____Little
_____Very Little or None

2. Please note any strengths or weaknesses of this particular session that should be called to the attention of project personnel.

(a)

(b)

(c)

Please use reverse side for additional comments.

Form 2-1

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

ESEA, Title III
Environmental Education TV Inservice Workshop
Teacher Rating Scale
(To be completed by all Environmental
Education TV Workshop participants)

You have participated in an Environmental Education TV Workshop. This activity was, in part, funded by a federal government grant and requires an evaluation. Please assist in the evaluation of this workshop by completing this rating scale.

KNOWLEDGE (Check or answer)

I. Please give us any specific new ideas you may have learned about the environment.

II. Rate each of the following Environmental Education Workshop sessions on their effectiveness in helping you become more aware and knowledgeable about the environment (refer to your course syllabus, if necessary):

Session	Guest Speakers	Very Effective	Effective	Small Effect	Not Effective At All
Concerns of the Environment					
Ecological Interrelationships					
Population					
Sanitary Wastes and Water					
Solid Waste					
Power/Energy					
Air Pollution					
Urban Environment					
Transportation					

III. Please rate the effectiveness of the total workshop in helping you become more aware and knowledgeable about the environment.

IV. Please use this space to add any comments you may have in reference to your ratings in II and III.

VALUES AND ATTITUDES (Check or answer)

I. Please give us, if you can, any specific examples of how your attitudes, values, or appreciations for environmentally-related issues changed because of this course.

II. Rate each of the following Environmental Education Workshop sessions on their effectiveness in developing or changing your attitudes about the particular environmental topic or problem of the day.

Session	Guest Speakers	Very Effective	Effective	Small Effect	Not Effective At All
Concerns of the Environment					
Ecological Interrelationships					
Population					
Sanitary Wastes and Water					
Solid Waste					
Power/Energy					
Air Pollution					
Urban Environment					
Transportation					

III. Please rate the effectiveness of the total workshop in developing or changing your attitudes and values about the environment.

IV. Please use this space to add any comments you may have in reference to your ratings in II and III.

MILWAUKEE ENVIRONMENTAL PROBLEMS AND SOLUTIONS

I. Please identify five environmental problems facing the Milwaukee community and one or more environmentally-sound options to the solution of each identified problem.

Problems	Solution Options
1. ______________________	______________________
	______________________
	______________________
	______________________
2. ______________________	______________________
	______________________
	______________________
	______________________
3. ______________________	______________________
	______________________
	______________________
	______________________
4. ______________________	______________________
	______________________
	______________________
	______________________
5. ______________________	______________________
	______________________
	______________________
	______________________

II. Rate each of the following Environmental Education Workshop sessions on their effectiveness in acquainting you with the range of Milwaukee environmental problems and their solutions:

Session	Guest Speakers	Very Effective	Effective	Small Effect	Not Effective At All
Concerns of the Environment					
Ecological Interrelationships					
Population					
Sanitary Wastes and Water					
Solid Waste					
Power/Energy					
Air Pollution					
Urban Environment					
Transportation					

III. Please rate the effectiveness of the total workshop in terms of acquainting you with the range of Milwaukee environmental problems and their solutions.

IV. Please use this space to add any comments you may have in reference to your ratings in II and III.

APPLICATION (Check or answer)

I. Please give us specific examples of environmental education concepts or activities developed in the workshop which you will apply in your classroom or school. Which ones have you already applied?

List examples.	Please check one for each example listed. Plan To Apply	Have Applied
______________________________	☐	☐
______________________________	☐	☐
______________________________	☐	☐

II. Rate each of the following Environmental Education Workshop sessions on their effectiveness in giving you ideas about or solutions to environmental problems that you can utilize in your classroom, school, or personal life:

Session	Guest Speakers	Very Effective	Effective	Small Effect	Not Effective At All
Concerns of the Environment					
Ecological Interrelationships					
Population					
Sanitary Wastes and Water					
Solid Waste					
Power/Energy					
Air Pollution					
Urban Environment					
Transportation					

III. Please rate the effectiveness of the total workshop in terms of giving you ideas about and solutions to environmental problems that you can utilize in your classroom or personal life.

IV. Please use this space to add any comments you may have in reference to your ratings in II and III.

____

____

____

____

____

METHOD OF INSTRUCTION[a] (Check or answer)

I. Please rate the overall effectiveness of the workshop in terms of the following modes of instruction, techniques, and materials:

Modes of Instruction, Techniques, and Materials	Very Effective	Effective	Small Effect	Not Effective At All
Discussion or Activity Leaders (Cadre-Leaders) -				
Knowledge Imparted				
Group Leadership Skills				
Skill as a Resource Person				
Method of Delivery				
Ability to Lead Pre-telecast Orientation				
Ability to Lead Post-telecast Orientation				
Resource Materials Distributed -				
Quality				
Quantity				
Use of Visual Aids (TV Presentation) -				
Quality				
Quantity				
Guest Speakers on Telecasts-				
Quality				
Quantity				

II. Please rate the effectiveness of the total workshop in terms of the use of modes of instruction, techniques, and materials.

III. Please give us, if you can, specific instances of the use of modes of instruction, techniques, and materials that you think were particularly effective.

IV. Please give us, if you can, specific instances of the use of modes of instruction, techniques, and materials that you think were not particularly effective.

V. Please give us, if you can, specific instances of modes of instruction, techniques, and materials not used in this workshop that you feel could be used effectively in a future Environmental Education Workshop.

VI. Please use this space to add any comments you may have in reference to the methods of instruction used in the workshop.

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 2-2

ENVIRONMENTAL EDUCATION CURRICULUM MATERIALS
EFFECTIVENESS RATING SURVEY
(To be completed by teachers who attended the Fall Environmental Encounters Workshop)

NAME: ______________________ (Optional)   SCHOOL: ______________________ (Optional)

GRADES AND/OR SUBJECTS: ______________________________

Please help us evaluate curriculum materials developed under provisions of the ESEA, Title III, Environmental Education Program. Please complete this form and return it by May 11th, 1973. Your cooperation will be appreciated.

* * *

Curriculum Materials

Please check those materials which you have received:

Environmental Education Activities - English Language Arts Program ☐
Addenda to Home Economics Curriculum Guides - Environmental Education ☐
Activities and Problems in Environmental Education - Junior High Mathematics ☐
Environmental Chemistry Activities ☐
None of the above ☐

If you received one of the above materials, please indicate approximately how many suggestions from the material you applied in your classes since the Fall Environmental Encounters Workshop.

1 - 2 ☐ 3 - 5 ☐ 6 - 9 ☐ More ☐

How often have you used this material?

Never ☐ Seldom ☐ Occasionally ☐ Often ☐ Frequently ☐

Have you participated in any Environmental Education inservice offerings during the last two years?

Yes ☐ No ☐

Based upon your use of this curricular material, please rate its effectiveness on the characteristics listed on the back of this page.

Characteristics	Very Effective	Effective	Somewhat Effective	Not Effective
Appropriateness to grade level				
Appropriateness to subject area				
Ability to stimulate further student activity				
Appeal of format				
Presentation of environmental relationships or concepts				
Acceptance by students				
Presentation of topics worthy of study				
Appropriateness of materials for use throughout school year				
Possibility of being well received by other teachers in your grade or subject				
Potential for use in a variety of instructional settings (group work, individual study, etc.)				

Now, based upon your use of this material, rate the overall effectiveness of this curriculum material.				

	Very Effective Use	Effective Use	Somewhat Effective Use	Not Effective Use
Now, please rate the use of these materials in your classroom.				

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 2-3

ESEA, Title III
TV Inservice Workshop
Environmental Practices Scale
(To be completed by all TV
Workshop participants)

Item	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1. We should try to plan for the future in areas where planning has not been done before.					
2. The average citizen can contribute little to future planning; that is a task for experts.					
3. Mankind could die out just as other species have died out.					
4. The only reason for maintaining wilderness areas is so we have nice places to vacation.					
5. There have been many scientific advances with undesirable consequences.					
6. Airports should be built in convenient locations; we must tolerate any resulting noise pollution.					
7. If we are to stop pollution due to large companies, we must be able to substantiate charges with factual evidence.					
8. We need not be concerned about adverse effects of products sold on the open market for these products have been tested by regulatory bodies.					
9. We should fine or, if necessary, arrest individuals that persist in polluting the environment.					

Item	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
10. Problems of pollution usually involve matters of individual choice; laws alleviating these problems cause loss of individual freedom.					
11. We may have to do without certain goods and services in order to prevent pollution which results from their manufacture or use.					
12. We should continue to use the natural resources necessary to maintain our standard of living, even if it might cause problems for future generations.					
13. If we knew more about nature, we would put it to better use.					
14. We should get rid of all plants and animals that interfere with our way of life.					
15. Excessive interference with nature could destroy human life.					
16. Science and technology will solve air and water pollution problems.					
17. We should have something to say about how technological advances are used.					
18. It is important to our way of life that we own many things like homes, cars, appliances, etc.					
19. I try not to pollute the environment, but that is not enough.					
20. If the present rate of world population growth continues to increase, we may experience a shortage of resources.					
21. We need to plan for the future, but it is too soon to plan for the Year 2500.					

Item	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
22. The natural way is the right way; too much planning endangers society and the natural environment.					
23. Children naturally appreciate the beauty of nature.					
24. Some aspects of nature are important but many other aspects are unimportant.					
25. Human beings must control all living things to protect their own lives.					
26. If necessary, large businesses must sacrifice some profits in order to prevent further pollution to the environment.					
27. Large business lobby groups have more influence on political officials than the general public that elects them.					
28. It is the natural thing for certain animal species to become extinct.					
29. If we want to live in the city, we must accept air, water, noise, and other pollution.					
30. Uncontrolled economic growth is natural and should be encouraged.					
31. We must organize and press for solutions to pollution problems even if painful confrontations occur.					
32. Families having more than two children should be required to pay more taxes if this lowers the population growth rate.					
33. We lose too much freedom if we plan for the future.					

Item	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
34. The immediate consequences of our actions are often more important than the long-range consequences.					
35. Decisions made by people in one part of the world can affect people all over the world.					
36. Science will find ways to produce food for increasing populations.					
37. Our well-being may depend upon forms of life we know nothing about.					
38. We should not disturb the delicate balance in nature.					
39. New birth control methods will prevent overpopulation.					
40. Scientists can best tell us how to use the environment.					
41. Scientists should study relatively unknown forms of life.					
42. It is possible that some discoveries of science might endanger our health.					
43. We have a right to make our own decisions. Therefore, we should allow the advertisement of potentially health endangering products, as long as no one, besides the buyer, is endangered.					
44. Teaching children their responsibilities as caretakers of the earth is more important than teaching them their responsibilities as national citizens.				✓	
45. It isn't right to force people to buy non-polluting products when they are more expensive.					

Item	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
46. There is little I can do to lessen pollution.					
47. We must persuade our scientists and legislators to attack the pollution problem; they won't take steps to reduce pollution voluntarily.					
48. Using pressure tactics such as picketing and letter-writing to influence political decisions affecting the environment does more harm than good.					
49. We should organize mass boycotting of products polluting the environment and businesses selling such products.					
50. Man is the highest form of life and should manage the earth as he pleases.					

Form 2-6

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

ESEA, Title III
Environmental Encounters Inservice Workshop
Teacher Rating Scale
(To be completed by all Environmental
Education Workshop participants)

You have participated in an Environmental Education Workshop. This activity was, in part, funded by a federal government grant and requires an evaluation. Please assist in the evaluation of this workshop by completing this rating scale.

KNOWLEDGE (Check or answer)

I. Please give us any specific new ideas you may have learned about the energy crisis.

____

____

____

____

____

II. Rate each of the following Environmental Education Workshop sessions on their effectiveness in helping you become more aware and knowledgeable about the energy crisis (refer to your course syllabus, if necessary):

Session	Guest Speakers	Very Effective	Effective	Small Effect	Not Effective At All
Is there an energy crisis?					
Energy situation in Wisconsin					
Energy resources of the U.S.					
Thermodynamics and energy					
Geologist's view of energy crisis					
Electric power industry					
Gas industry					
Environmental Protection Agency					
Summary					

III. Please rate the effectiveness of the total workshop in helping you become more aware and knowledgeable about the energy crisis.

IV. Please use the back of this page to add any comments you may have in reference to the above ratings.

INDEPTH STUDY (Check or answer)

I. Rate each of the following Environmental Education Workshop sessions on their effectiveness in providing an indepth study and training opportunity with respect to environmental problems and solutions associated with the energy crisis.

Session	Guest Speakers	Very Effective	Effective	Small Effect	Not Effective At All
Is there an energy crisis?					
Energy situation in Wisconsin					
Energy resources of the U.S.					
Thermodynamics and energy					
Geologist's view of energy crisis					
Electric power industry					
Gas industry					
Environmental Protection Agency					
Summary					

II. Please rate the effectiveness of the total workshop in providing you with an indepth study and training opportunity with respect to environmental problems and solutions associated with the energy crisis.

III. Please use this space to add any comments you may have in reference to the above ratings.

VALUES AND ATTITUDES (Check or answer)

I. Please give us, if you can, any specific examples of how your attitudes, values, or appreciations for environmentally-related issues changed because of this course.

II. Rate each of the following Environmental Education Workshop sessions on their effectiveness in developing or changing your environmental attitudes concerning the energy crisis.

Sessions	Guest Speakers	Very Effective	Effective	Small Effect	Not Effective At All
Is there an energy crisis?					
Energy situation in Wisconsin					
Energy resources of the U.S.					
Thermodynamics and energy					
Geologist's view of energy crisis					
Electric power industry					
Gas industry					
Environmental Protection Agency					
Summary					

III. Please rate the effectiveness of the total workshop in developing or changing your environmental attitudes and values concerning the energy crisis.

IV. Please use the back of this page to add any comments you may have in reference to the above ratings.

APPLICATION (Check or answer)

I. Please, if you can, give us specific examples of ideas or information which you can apply in your classroom or personal life. Which ones will you be applying?

II. Rate each of the following Environmental Education Workshop sessions on their effectiveness in giving you ideas about or solutions to the energy crisis that you can utilize in your classroom or personal life:

Sessions	Guest Speakers	Very Effective	Effective	Small Effect	Not Effective At All
Is there an energy crisis?					
Energy situation in Wisconsin					
Energy resources of the U.S.					
Thermodynamics and energy					
Geologist's view of energy crisis					
Electric power industry					
Gas industry					
Environmental Protection Agency					
Summary					

III. Please rate the effectiveness of the total workshop in terms of giving you ideas about and solutions to the energy crisis that you can utilize in your classroom or personal life.

IV. Please use the back of this page to add [illegible] comments you may have in reference to the above ratings.

METHOD OF INSTRUCTION (Check or answer)

I. Please rate the overall effectiveness of the workshop in terms of the following modes of instruction, techniques, and materials:

Modes of Instruction, Techniques, and Materials	Very Effective	Effective	Small Effect	Not Effective At All
Structure of Workshop--				
Weekly topics appropriate to intent of workshop				
Sequencial arrangement of workshop topics				
Opportunity for participant questions				
Introduction of guest speakers				
Time of day of workshop offering				
Variety of speakers with differing expertise				
Resource Materials Distributed--				
Quality				
Quantity				
Use of Visual Aids (slides, film, etc.)--				
Quality				
Quantity				
Guest Speakers--				
Quality				
Quantity				

II. Please rate the effectiveness of the total workshop in terms of the use of modes of instruction, techniques, and materials.

Very Effective	Effective	Small Effect	Not Effective At All

III. Please give us, if you can, specific instances of the use of modes of instruction, techniques, and materials that you think were particularly effective.

____

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IV. Please give us, if you can, specific instances of the use of modes of instruction, techniques, and materials that you think were not particularly effective.

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____

____

V. Please give us, if you can, specific instances of modes of instruction, techniques, and materials not used in this workshop that you feel could be used effectively in a future Environmental Education Workshop.

____

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____

VI. Please use this space to add any comments you may have in reference to the methods of instruction used in the workshop.

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DIFFUSION

I. Consider all the workshop sessions and the ideas, suggestions, and opinions expressed in them. Have you conveyed any of these thoughts, ideas, or opinions to others outside of the Environmental Education Workshop? For example, because of what you've learned or gained from these sessions, have you expressed to other non-Environmental Education Workshop teachers, to neighbors, to school or public officials, your idea of what ought to be done about the energy crisis? If so, please give examples of how you've done this, or intend to do this, with what ideas, etc.

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QUESTIONS

I. Would you prefer: (check one)

Ten one and one-half hour sessions (present session length) or ☐

Fifteen one hour sessions? ☐

II. Would you please give us, in order of preference, three suggestions for future workshop topics?

1.

2.

3.

3

Form 3-1

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
ENVIRONMENTAL ISSUES COURSE
TEACHER RATING SCALE

(To be completed by teachers pilot-testing the course.)

Dear Teacher:

This past semester you pilot-tested a course in environmental issues. Please assist in the evaluation of this course by completing this rating scale.

Teacher ______________________ School ______________________

Number of students taking the course ______________________

* * *

Please indicate the extent to which you agree with the following statements:

1. Did you make use of Urban Studies System (Hubbard Scientific Company) in the course you pilot-tested?

Yes ____ No ____

If yes, how did you use this material? ______________________

____

____

2. Did you make use of Ecology and Human Values (DPI) in the course you pilot-tested?

Yes ____ No ____

If yes, how did you use this material? ______________________

____

____

3. Did you develop your own objectives, guidelines, and materials for the course you pilot tested?

Yes ____ No ____

If yes, would you please enclose a copy of your course outline? This would be helpful for planning future courses.

If no, from what source did you get the objectives, guidelines, and materials for the course? ______________________

____

____

4. If you were to teach an Environmental Issues Course again,

a. what use, if any, would you make of Urban Studies System?

b. what use, if any, would you make of Ecology and Human Values?

c. what would you use for your course objectives, guidelines, and materials?

5. The developed Environmental Issues Course that I pilot-tested is satisfactory and worthy of inclusion into the environment.

Yes _____ No _____

Comment: ____

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 3-3

TEACHER SURVEY
CURRICULUM SPECIALS
(To be completed by teachers viewing specials)

The "curriculum special" you have just viewed was produced with funds provided under provisions of the ESEA, Title III, Environmental Education Program. Please assist in the evaluation of this special by rating its effectiveness.

Teacher's Name: ____________________ School: ____________________
(Optional)

Grades and/or Subjects: ____________________

Subject	Very Effective	Effective	Somewhat Effective	Not Effective
Method of Presentation Quality of tape (sight and sound)				
TV as an inservice device				
Use of visual aids (slides, books, charts, etc.)				
Type of delivery (group discussion, lecture, etc.)				
Quality of delivery				
Content of Presentation Provided information that helps in better utilization of the curriculum guide				
Communicated a need for integration of Environmental Education concepts into the curriculum				
Overall Effectiveness of Program				

If changes were to be made in these presentations, how might the special be improved?

____

____

____

CURRICULUM SUPERVISORS SURVEY

Form 3-4

Curriculum Product____ Date________________

Subject Area____ Grade Level__________

CONSIDERATIONS (Please check each item)			Excellent	Good	Average	Poor	Unacceptable	N/A*
1. Develops intended concepts		1.						
2. Appropriateness of performance objectives		2.						
3. Practicality of unit or activity in terms of:	Length	3.						
	Materials							
	Teacher Preparation							
4. Develop vocabulary		4.						
5. Difficulty level		5.						
6. Adaptability to a wide-range of ability levels		6.						
7. Adaptability for use by students who may be atypical		7.						
8. Stimulus to learning in classroom		8.						
9. Continuity of materials or activities with respect to the unit or course into which it is being integrated		9.						
10. Appropriateness of format		10.						
11. Probable contribution to cognitive learning		11.						
12. Clarity of stated usage		12.						
13. Probability of teacher acceptance		13.						
14. Probability of parental acceptance		14.						
15. Reflects school/community values		15.						
16. Acceptance by school communities that have varied and unique characteristics		16.						

*N/A-Not Applicable

****

Overall Rating (Please check)

Satisfactory_____ Unsatisfactory_____

Explanation of Choice and Other Comments (Please Use Other Side)

Name & Position of Rater:____

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 3-6

ENVIRONMENTAL EDUCATION CURRICULUM MATERIALS EFFECTIVENESS RATING SURVEY

(To be completed by teachers receiving
Environmental Education Curriculum Materials)

NAME: ______________________ (Optional)   SCHOOL: ______________________ (Optional)

GRADES AND/OR SUBJECTS: ______________________

Please help us evaluate curriculum materials developed under provisions of the ESEA, Title III, Environmental Education Program. Please complete this form and return it by June 8th, 1973. Your cooperation will be appreciated.

* * *

CURRICULUM MATERIALS

Please check those materials which you have received:

- Environmental Education Activities - English Language Arts Program ☐
- Addenda to Home Economics Curriculum Guides - Environmental Education ☐
- Activities and Problems in Environmental Education - Junior High Mathematics ☐
- Environmental Chemistry Activities ☐
- None of the above ☐

Did you view a "curriculum special" in regard to any material checked above?

Yes ☐   No ☐

Have you participated in any Environmental Education inservice offerings during the last two years?

Yes ☐   No ☐

Based upon your use of this curricular material, please rate its effectiveness on the characteristics listed on the back of this page.

Characteristics	Very Effective	Effective	Somewhat Effective	Not Effective
Appropriateness to grade level				
Appropriateness to subject area				
Ability to stimulate further student activity				
Format of guide				
Presentation of environmental relationships or concepts				
Acceptance of material by students				
Presentation of topics worthy of study				
Appropriateness of materials for use throughout the school year				
Potential for use in a variety of instructional settings (group work, individual study, etc.)				

Now, based upon your use of this material, rate the overall effectiveness of this curriculum material.				

Now, please rate the use of these materials in your classroom.				

How often have you used this material?

Never ☐ Seldom ☐ Occasionally ☐ Often ☐ Frequently ☐

Form 3-10

CURRICULUM DEVELOPMENT WORKSHOP

Participant Questionnaire

Please complete this questionnaire by providing your frank response to each item.

1. I think the supervisory personnel provided adequate guidance and assistance in curriculum development during the workshop.

   ______ Strongly Agree   ______ Agree   ______ Undecided   ______ Disagree   ______ Strongly Disagree

2. I think the outside consultants provided adequate guidance and assistance in curriculum development during the workshop.

   ______ Strongly Agree   ______ Agree   ______ Undecided   ______ Disagree   ______ Strongly Disagree

3. As a result of the three day training session (July 5-7), I felt adequately prepared to begin writing the curriculum guidelines and materials.

   ______ Strongly Agree   ______ Agree   ______ Undecided   ______ Disagree   ______ Strongly Disagree

4. Please note strengths and weaknesses of the Curriculum Development Workshop which should be called to the attention of project personnel.

   (a) Workshop Strengths:

   (b) Workshop Weaknesses:

Form 4-1

MINI-PROPOSAL AUDIT

Please use this form to indicate the status of your mini-proposal design. Refer to the "Time Schedule of Activities" section of your mini-proposal and then fill in activities and their scheduled initiation and completion dates. Then, complete the form by checking appropriate boxes and making comments on the back.

Event or Activity (Fill in)	Scheduled Initiation Date (Fill in)	Check one box for each activity.				Scheduled Completion Date (Fill in)	Check one box for each activity.			
		Initiated		Not Initiated			Completed		Not Completed	
		On Schedule	Later Than Scheduled	Behind Schedule	On Schedule		On Schedule	Later Than Scheduled	Behind Schedule	On Schedule

(Over)

If an activity was initiated later than scheduled or has not been initiated as scheduled, give reasons for the delay.

Activity	Reason for Delay

If an activity was completed later than scheduled or has not been completed as scheduled, give reasons for the delay.

Activity	Reason for Delay

If you anticipate delays in the initiation or completion of future activities, please indicate and give reasons for the expected delays.

Activity	Reason for Anticipated Delay

Form 4-2

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

OPEN-END GRANT PROGRAM - SPRING, 1973
MINI-PROPOSALS - COMPONENT #4

SCHOOL: ______________________ ADVISOR: ______________________

TITLE OF MINI-PROPOSAL: ______________________________________

Dear Student:

This past year you and other members of your School Action Committee participated in the development, submittal, and implementation of a mini-proposal. This proposal was, in part, funded by a federal grant for Environmental Education, and this funding requires an evaluation. Please help us evaluate the mini-proposal program by completing this survey. Please return the completed survey in the enclosed envelope by Friday, June 8th, 1973. Check either "Yes" or "No". If you cannot decide or don't know, check "Don't Know".

* * *

1. Has the mini-proposal program given you a voice and a means to begin solving or alleviating environmental problems in and around your school or community?

   Yes ____ No ____ Don't Know ____

2. Were you satisfied with the voice you had in planning this mini-proposal project?

   Yes ____ No ____ Don't Know ____

3. Were you satisfied with the means available for carrying out the plan of your mini-proposal project?

   [✓ Yes] No ____ Don't Know ____

4. If you were to be enrolled in school here next year and had a good idea for a mini-proposal, would you take action to plan a proposal and submit it for funding?

   Yes ____ No ____ Don't Know ____

5. Do you feel that your School Action Committee helped students who weren't members of the Action Group to become aware of environmental issues?

   Yes ____ No ____ Don't Know ____

6. Do you feel that the mini-proposal program should be continued?

   Yes ____ No ____ Don't Know ____

7. Were you able to carry out your proposal according to your original plan?

Yes ____ No ____ Don't Know ____

If "No", please explain.

____

____

____

8. If changes were to be made in the mini-proposal program, how do you think the program could be improved?

____

____

____

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Form 4-4

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Environmental Education Instrumentation Program
Student Participation List
(To be completed by project advisor)

Please list all students not associated with the design of your instrumentation proposal who voluntarily offered their services to aid in implementing this design.

1. ______	26. ______
2. ______	27. ______
3. ______	28. ______
4. ______	29. ______
5. ______	30. ______
6. ______	31. ______
7. ______	32. ______
8. ______	33. ______
9. ______	34. ______
10. ______	35. ______
11. ______	36. ______
12. ______	37. ______
13. ______	38. ______
14. ______	39. ______
15. ______	40. ______
16. ______	41. ______
17. ______	42. ______
18. ______	43. ______
19. ______	44. ______
20. ______	45. ______
21. ______	46. ______
22. ______	47. ______
23. ______	48. ______
24. ______	49. ______
25. ______	50. ______

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 5-1

URBAN FIELD TRIP

Read each statement carefully and select the one best answer. Note the letter before your choice and circle the letter on your answer sheet.

* * *

1) Which river is not found in the City of Milwaukee?

   a. Milwaukee

   b. Menomonee

   c. Kinnickinnic

   d. Wisconsin

2) Milwaukee citizens and government must decide how the land in the Juneau Park Lagoon area will be used. The choice is between

   a. homes or parks.

   b. freeways or homes.

   c. freeways or parks.

   d. industry or parks.

3) The term "environment" means

   a. the weather around your home and school.

   b. everything that is natural and man-made around you.

   c. your location on the map anywhere in the world.

   d. all kinds of pollution.

4) Who should be most responsible for keeping litter out of our parks?

   a. People who use the parks

   b. Policemen

   c. Park workers

   d. School children

5) The best reason why we recycle paper, glass, bottles, and wastes is that we

a. feel better about helping our environment.

b. have less litter on the streets.

c. can save our money.

d. use up less of our natural resources.

6) Trees, plants, and bushes growing in the city are pretty and give us shade, but they are helpful to us mainly because

a. they add oxygen to the air.

b. they provide wood for paper products.

c. they block out noise.

d. they provide homes for birds.

7) Which one of the following is not found in the Milwaukee harbor area?

a. Ships loading grain

b. Salt and scrap metal piles

c. The sewage treatment plant

d. The water treatment plant

e. Gasoline storage tanks

8) Milorganite is

a. a fertilizer made from recycled sewage.

b. a waste product made from burning coal.

c. a mineral (type of rock) found in the ground around Milwaukee.

d. a mineral used in making cement.

9) Much of the land in Milwaukee now used for freeways was once used for

a. city parks.

b. industrial sites.

c. housing.

d. playgrounds.

10) Milwaukee's sewage is

a. changed into a fertilizer.

b. always pumped directly from homes into Lake Michigan.

c. used for land fill.

d. All of the above

11) Freeways can be harmful to our cities because there is too much

a. car exhaust.

b. land used for parking lots.

c. traffic noise.

d. All of the above

12) In order to keep litter out of the parks, we should

a. hire more people to clean up our parks.

b. clean up more on our own when we visit parks.

c. hire more policemen.

d. keep people who we know have littered before out of the parks.

13) Which of the following are problems caused by building on open green areas in our city?

a. Less oxygen to clean the air

b. Room for too many more cars

c. Fewer areas for city parks

d. All of the above

14) An electrostatic precipitator is used at the Valley Power Electric Plant to

a. make electricity.

b. prevent fly ash from entering the air.

c. heat downtown buildings and stores.

d. All of the above

15) The Valley Power Electric Plant helps to keep the air clean mainly by

a. burning pulverized coal.

b. using pure water.

c. catching fly ash.

d. using new turbines.

16) Martin Luther King Park took a long time to develop into a real park because

a. people ran out of money to develop it.

b. there were not enough machines to build it.

c. people could not agree on how to build it.

d. most people forgot about it.

e. All of the above

17) What is really to blame for the pollution we see in the air, land, and water?

a. Planes and ships

b. Factories

c. People

d. Cars, trucks, and buses

18) The water we use for drinking, bathing, and cooking is pumped directly to our homes from

a. a water purification plant.

b. deep wells.

c. the three rivers in Milwaukee.

d. Lake Michigan.

19) The group which plans for the future of our city and involves citizens in deciding what those plans will be is the

a. County Park Commission.

b. Mayor and aldermen.

c. Model Cities Agency.

d. County Supervisors.

e. All of the above

20) The Model Cities Neighborhood is

a. a new housing development.

b. located in the Jones Harbor area.

c. located in the inner city.

d. a south-side community.

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 5-2

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
URBAN FIELD TRIP PILOT PROGRAM
TEACHER CHECKLIST

(To be completed by participating teachers during the two-week period after the field trip.)

TEACHER: ______________________ GRADE: ______________________

SCHOOL: ______________________ DATE COMPLETED: ______________________

Please complete this form by listing all of your classroom students who went on the Urban Field Trip. Task suggestions included in the media package are attached and identified by number. For each student, please write the number(s) of the task suggestion(s), if any, voluntarily performed or begun during the two weeks after the field trip.

STUDENTS	ACTIVITY NUMBERS

STUDENTS	ACTIVITY NUMBERS

Form 5-3

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
URBAN FIELD TRIP PILOT PROGRAM
TEACHER QUESTIONNAIRE

NAME: ______________________________

SCHOOL: ______________________________ GRADE LEVEL: ______________________________

Please help us evaluate the effectiveness of the Urban Field Trip teaching and resource materials. Materials listed below were furnished to teachers participating in the Urban Field Trip Program. It is not expected that any one teacher will have received and used all of these materials. Therefore, we would like teachers to evaluate only those materials which were used.

COLUMN 1 - Check if material was used.

COLUMN 2 - Rate material in terms of its value to the program (excellent, good, fair, poor).

COLUMN 3 - Indicate with a "yes" or "no" if you would recommend it as effective in your environmental instruction of pupils.

ITEM	MATERIAL USED	RATING	EFFECTIVE
Slide-Tape Presentation			
Urban Field Trip Teacher's Guide			
Kit of Related Materials			
Maps: Aerials			
Large City Map			
Blue Model Cities Neighborhood			
Milwaukee County Map			
Samples: Pulverized Coal			
Flyash			

ITEM	MATERIAL USED	RATING	EFFECTIVE
Samples: (Cont'd) Milorganite			
Recycled Paper			
Bulletin Board Materials: Soil Conservation Service Posters			
Rat Control Poster			
Litter Poster			
Additional Teaching and Resource Materials: Wisconsin Electric Company Teacher's Guide			
Milwaukee Harbor Tour Teacher's Guide			
"Man's Habitat - The City" Teacher's Guide			
"Your Urban Environment" Teacher's Guide			
"Let's Follow the Raindrops" Resource Unit			
"Water and Its Pollution" Resource Unit			
"The Story of Water Supply" Comic Book			
"To You from Lake Michigan" Pamphlet			
Milwaukee Waste Water Treatment Information			
Milwaukee County Airport 1970 Annual Report			
Wisconsin Electric Power Company Annual Report			

ITEM	MATERIAL USED	RATING	EFFECTIVE
Additional Teaching and Resource Materials: (Cont'd) Wisconsin Electric Power Company Guide to Teaching Resources			
"Electricity is the Way of Today" Pamphlet			
Point Beach Nuclear Power Plant Information			
1971 EQ Index			
"Milwaukee - More Than a City"			
"It's Everybody's Job" - Keep America Beautiful			
"Saving the Crusade" Reprint			
"Lead Poisoning"			
"Centrex Dialing Information"			
"HELP" - Department of City Development			
United States Forest Service Conservation Kit			
University of Wisconsin Extension Materials: "A Brief Overview of Water"			
"An Environmental Checklist"			
"Mission 5000"			
"What You Can Do About Water Pollution"			
"Man and His Endangered World"			
"Ecology and You"			

ITEM	MATERIAL USED	RATING	EFFECTIVE
University of Wisconsin Extension Materials: (Cont'd) Citizen Role in Implementation of Clean Air Standards			
Model Cities Information Packet			
Materials for Pupil Use: Milwaukee Journal Points of Interest Map			
"Strike or Spare" Comic Book			
Rat Problems Pamphlet			
Wisconsin Electric Power Company Student Book			
Rats Love Garbage Lapel Buttons			
Rats Love Garbage Pencils			
"Auntie Litter" Bag			
Milwaukee Health Department "Grime Buster" Flyer			

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 5-4

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
SECONDARY FIELD TRIP PROGRAM
TEACHER FOLLOW-UP ACTIVITY RECORD

(To be completed by cadre participating in the secondary field trips.)

Name of Group: ______________________________

School: ______________ Teacher/Advisor: ______________

Site Visited: ______________________________

Please help evaluate the Secondary Field Trip Program. Describe below any follow-up activities related to the field trip that your group performs during the remainder of the school year following your trip.

Follow-up Activity(ies): ______________________________

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 5-5

Pulaski High School
Secondary Field Trip Test

Answer the following as briefly as possible.

* * *

1. Name two ways in which the state inspectors are actively involved in environmental protection.

____

____

____

2. Name two goals of the State Department of Vehicle Inspection which help protect the environment.

____

____

____

3. Approximately 25% of the land in our urban area is used for transportation such as parking lots, airports, bus terminals, railways, streets, and highways. Describe two specific conflicts of land use caused by meeting our need for transportation.

____

____

____

4. What is the environmental impact of the building of roadways?

____

____

____

5. List the composition of auto emissions and their environmental impact.

____

____

____

6. What effect does the building of roadways have on the environment in rural areas?

7. List environmental effects your family automobile has on the total environment.

8. List alternative modes of transportation which would reduce environmental degradation.

9. List the ways in which a private citizen can keep his car in the best condition for the least damage to the environment.

10. What alternative energy sources exist for vehicular transportation?

Which are most feasible? ____________________

Why? ____________________

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 5-5

Walker Junior High School and South Division High School
Secondary Field Trip Test

Answer the following as briefly as possible.

* * *

1. Name two signs of deterioration of the environment observable on Mitchell Street.

____

____

____

2. List at least two ways in which the UW-M school of architecture team proposes to revive Mitchell Street as a commercial area.

____

____

____

3. How will the environment of the neighborhood bordering Mitchell Street be improved by proposed improvements?

____

____

____

4. List the things people need to live and work in an urban environment.

____

____

____

5. What natural resource is being depleted in the production of electric power?

____

____

____

6. List two effects on the environment caused by the production of electric power.

____

____

____

7. List two positive and two negative effects the building of expressways has on the urban environment.

____

____

____

8. Describe the change in the environment occurring around Martin Luther King Park. How does this change affect the lives of the people living in this area?

____

____

____

9. How does the Wisconsin Electric Power Company show a responsible attitude toward the environment?

____

____

____

10. What needs are met by the cultural area (Civic Center) of Milwaukee? by the business district?

____

____

____

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 5-5

BELL JUNIOR HIGH SCHOOL
SECONDARY FIELD TRIP

Answer the following as briefly as possible.

* * *

1. Describe a simple ecological interrelationship which you can find in the dry forest area of the Muckwanago County Park.

____

____

____

2. Describe a simple ecological interrelationship which you can find in the wetland area of the Muskego County Park.

____

____

____

3. What kinds of disturbances to ecological interrelationships in Muskego Park were caused by a tornado last summer?

____

____

____

4. What differences can you describe between the ecological interrelationships of the wild areas you visited and city parks located in Milwaukee?

____

____

____

5. Of what benefit are wild areas to city residents?

____

____

____

6. From your experiences in Muckwanago and Muskego, what suggestions can you make for future planning of park, residential, and commercial areas in our city?

7. In which setting would you expect to find the healthiest natural environment, a large city park or a wild area? Explain your choice.

8. How does covering up open land for transportation, business, industry, and housing effect our total natural and man-made environment?

9. Why do migrating warblers stop over in Muskego Park rather than a city park?

10. Why are most city parks a good example of "simplifying types of land management"?

Form 5-

MILWAUKEE PUBLIC SCHOOLS
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Department of Educational Research and Program Assessment

WASHINGTON HIGH SCHOOL
SECONDARY URBAN FIELD TRIP

Read each statement carefully and select the one best answer. Note the letter before your choice and circle the letter on your answer sheet.

* * *

1. Which river is not found in the City of Milwaukee?

   a. Milwaukee

   b. Menomonee

   c. Kinnickinnic

   d. Wisconsin

2. Milwaukee citizens and government must decide how the land in the Juneau Park Lagoon area will be used. The choice is between

   a. homes or parks.

   b. freeways or homes.

   c. freeways or parks.

   d. industry or parks.

3. Who should be most responsible for keeping litter out of our parks?

   a. People who use the parks

   b. Policemen

   c. Park workers

   d. School children

4. The best reason why we recycle paper, glass, bottles, and wastes is that we

   a. feel better about helping our environment.

   b. have less litter on the streets.

   c. can save our money.

   d. use up less of our natural resources.

5. Much of the land in Milwaukee now used for freeways was once used for
    a. city parks.
    b. industrial sites.
    c. housing.
    d. playgrounds.

6. Milwaukee's sewage is
    a. changed into a fertilizer.
    b. always pumped directly from homes into Lake Michigan.
    c. used for land fill.
    d. All of the above

7. An electrostatic precipitator is used at the Valley Power Electric Plant to
    a. make electricity.
    b. prevent fly ash from entering the air.
    c. heat downtown buildings and stores.
    d. All of the above

8. The Valley Power Electric Plant helps to keep the air clean mainly by
    a. burning pulverized coal.
    b. using pure water.
    c. catching fly ash.
    d. using new turbines.

9. What is really to blame for the pollution we see in the air, land, and water?
    a. Planes and ships
    b. Factories
    c. People
    d. Cars, trucks, and buses

10. The group which plans for the future of our city and involves citizens in deciding what those plans will be is the

a. County Park Commission.

b. Mayor and aldermen.

c. Model Cities Agency.

d. County Supervisors.

e. All of the above

Form 5-5

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

WASHINGTON HIGH SCHOOL
SECONDARY URBAN FIELD TRIP
ANSWER SHEET

Name: ______________________ Date: ______________________

Circle the one best answer.

* * *

1. a b c d

2. a b c d

3. a b c d

4. a b c d

5. a b c d

6. a b c d

7. a b c d

8. a b c d

9. a b c d

10. a b c d e

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 5-5

Madison High School
Secondary Field Trip Test

Answer the following as briefly as possible.

* * *

1. In what way(s) does solid wastes affect air quality? ______________________________

   ____

   water quality? ______________________________

   ____

   land quality? ______________________________

   ____

   visual quality? ______________________________

   ____

2. Define solid waste.

   ____

   ____

   ____

3. Name the most environmentally-sound way invented to date in which solid waste can be disposed.

   ____

   ____

   ____

4. What is the environmental impact of the process used by Milwaukee for disposal of its solid waste?

   ____

   ____

   ____

5. What are four ways the individual can help limit the amount of solid waste produced in the home?

____

____

____

6. What is the major reason why recycling is not a major means of solid waste disposal today?

____

____

____

7. What natural resources would be conserved by a recycling program?

____

____

____

8. List three non-biodegradable containers that are the major source of solid waste disposal problems.

____

____

____

9. The following outline traces a 25¢ soda can from the time the raw material is mined to the point at which the can is finally disposed of. What happens to the environment as a result of each step?

Bauxite mined	Electricity needed to transform to aluminum	Roads needed to transport cans	Cans thrown away
__________	__________	__________	__________
__________	__________	__________	__________
__________	__________	__________	__________

10. The major thrust of past solid waste legislation has been toward the development of new techniques for disposal and of interstate cooperation on sanitary landfill projects. What should be the major thrust of future legislation?

Form 5-5

MILWAUKEE PUBLIC SCHOOLS
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Department of Educational Research and Program Assessment

MADISON HIGH SCHOOL
ENVIREX - SEWERAGE TREATMENT PLANT FIELD TRIP

Answer the following as briefly as possible.

* * *

1. Explain how our present life styles are related to the products manufactured by Envirex.

2. What is the relationship between the products manufactured by Envirex and your family's paycheck?

3. Pick one example of pollution abatement equipment described in your conference. What does successful operation of this equipment depend upon?

4. What are the implications to us of the fish and the boy shown in the movie?

5. Does the film raise hopes of achieving non-polluted water? _______ What does this depend on?

6. "We can rely on man's advancing technology to solve environmental problems both now and in the future." Do you agree or disagree with that statement and why?

7. Why was discharge into an open stream once an effective method of sewage disposal but is no longer?

8. Briefly explain why existence of a sewerage treatment plant is positive proof of a disturbed or imbalanced natural ecosystem.

9. What complications in Milwaukee's older sewer system create sewerage treatment problems today?

10. What is water pollution?

List some primary causes of water pollution.

How is water pollution determined and how is it prevented?

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 5-5

LINCOLN HIGH SCHOOL
SECONDARY FIELD TRIP TEST

Answer the following as briefly as possible.

****

1. In what ways are trees important for our NATURAL RURAL environment?

2. How do trees improve our lives in the MAN-MADE URBAN environment?

3. How can the covering up of fields and woods to build new housing, shopping centers, and freeways, etc. harm the natural and man-made environment?

4. On your trip, you saw that farm plowing and planting is late this year because of heavy spring rainfall. How might this problem affect our lives?

5. List one or two reasons trees are planted along highways.

   (a) __________

   (b) __________

6. Describe one or two ways the process for making paper harms our environment.

(a) ____

____

(b) ____

____

7. Will the testing of wood and paper products improve our environment and our lives?

____

____

Why or why not?

____

____

8. At the lab you saw products being tested. Name one or two of these products and describe how each might affect our environment (good or bad).

(a) ____

____

(b) ____

____

9. Describe one or two ways in which wasted wood and paper products can by recycled.

(a) ____

____

(b) ____

____

10. One reason our country faces a wood shortage is because we waste so much of this natural resource. Describe one way in which you waste a wood or paper product and how you might help to not waste so much in the future.

____

____

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 5-5

WASHINGTON HIGH SCHOOL
SECONDARY FIELD TRIP TEST

Answer the following as briefly as possible.

* * *

1. In what way has Milwaukee improved environmental quality by switching to the garbage disposal method seen at the Lincoln Avenue Transfer Station?

____

____

____

2. In what ways might the garbage disposal method now used by Milwaukee harm the environment?

____

____

____

3. What natural features does Milwaukee have which enables it to be a major industrial city?

____

____

____

4. Describe the effect deteriorated housing has on the environment of a community.

____

____

____

5. List the things people need to live and work in an urban environment.

____

____

____

6. List two effects on the environment caused by the production of electric power.

7. What effect does the paving over of the land for streets and freeways have on the environment?

8. Describe the change in the environment occurring around Martin Luther King Park. How does this change affect the lives of the people living in this area?

9. How does the Wisconsin Electric Power Company show a responsible attitude toward the environment?

10. What needs are met by the cultural area (Civic Center) of Milwaukee? . . by the business district?

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 5-5

SOUTH DIVISION HIGH SCHOOL
ELECTRICAL ENERGY FIELD TRIP
PROPOSED TEST QUESTIONS

Answer the following as briefly as possible.

* * *

1. Briefly explain the conversion of energy which takes place at:

Oak Creek ______________________________

____

____

Point Beach ______________________________

____

____

2. How do waste products created by these conversions cause harm to the natural and man-made environment?

Oak Creek ______________________________

____

____

Point Beach ______________________________

____

____

3. Does production of electricity create any by-products which are beneficial to the natural and man-made environment?

Oak Creek ______________________________

____

____

Point Beach ______________________________

____

____

4. What measures has Wisconsin Electric taken which indicates corporate responsibility in maintaining environmental quality?

5. How do individual life-styles affect demands for electrical energy?

6. Why is coal the main fossil fuel used in Wisconsin to generate electricity?

7. Describe how the mining of coal affects the natural environment.

8. Briefly explain how fish life in Lake Michigan and the production of electrical energy using nuclear power are interrelated.

9. In what way does the transmission of electric power spoil the beauty of the natural and man-made environment?

What solution can you offer to this problem?

____

____

____

Is your solution economically feasible?

____

____

____

10. "The 'energy crisis' is a lot of baloney. We will always be able to solve problems like this through science and technology." What is your reaction to this statement?

____

____

____

MILWAUKEE PUBLIC SCHOOLS
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Department of Educational Research and Program Assessment

Form 5-6

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
SECONDARY FIELD TRIP PROGRAM
STUDENT SUGGESTION FORM

(To be completed by participating students after the field trip.)

Your group has just completed their Environmental Education secondary field trip. We would like your help in planning how the site(s) you visited might be better developed or used. Please list two or more environmentally-sound suggestions for site development and use.

Name of Group: ______________________________

School: ____________________ Teacher/Advisor: ____________________

Site Visited: ______________________________

Date of Visit: ____________________

SUGGESTIONS:

1) ______________________________
____

2) ______________________________
____

3) ______________________________
____

4) ______________________________
____

5) ______________________________
____

MILWAUKEE ENVIRONMENTAL PROBLEMS

STUDENT QUESTIONNAIRE

____
(Name)

____
(Summer School)

Please complete the chart by (1) listing 5 environmental problems facing Milwaukee and (2) describing at least 1 environmentally sound solution for each problem.

Environmental Problems Facing Milwaukee	Suggested Solution(s)
1.	
2.	

Environmental Problems Facing Milwaukee	Suggested Solution(s)
3.	
4.	
5.	

Form 6-7

STUDENT LEADERSHIP WORKSHOP

STUDENT QUESTIONNAIRE

(Name) ______________________

(Summer School) ______________________

1. How effective was the Student Leadership Workshop in providing you with the information and experience you need in order to serve as an environmental leader in your school?

(✓) The most appropriate answer:

______ Very Effective ______ Effective ______ Uncertain ______ Ineffective ______ Very Ineffective

2. Please rate the following Workshop presentations and activities of the past week in terms of their effectiveness in preparing you to be an ecological leader in your school. (✓) Check your answer

Workshop Activity	Very Effective	Effective	Uncertain	Ineffective	Very Ineffective
Air Quality presentation					
Energy Crisis presentation					
Point Beach Nuclear Plant Visit					
"Tragedy of the Commons" film					
Population Presentation					
Simulation Games					
Ecological Cycles and Field Trip to Gray Lake					
Leadership Training Sessions					
Group work on Ecological problem areas					
Other (Please Describe) ______					
Other (Please Describe) ______					

3. What suggestions do you have for improving this workshop? (Use back of page if necessary)

Form 6-8

ENVIRONMENTAL ISSUES WORKSHOP

STUDENT QUESTIONNAIRE

____
(Name)

____
(Summer School)

1. Please rate the following workshop presentations and activities of the past three weeks in terms of their effectiveness. Respond to only those activities in which you participated.

(✓) Check your answer.

Workshop Activity	Very Effective	Effective	Uncertain	Ineffective	Very Ineffective
Urban Environment Exercises					
Rural Field Trip					
Urban Field Trip					
McCann Seminar					
Southeastern Wisconsin Regional Planning Commission Seminar					
Political Workshop					
Instructional Media Center					
Television Lessons & discussions					
Films					
Multi-media productions					
Laboratory Work					
Rap sessions with guest speakers					
Individual or group research (miniproposals)					
Miniproposal discussions					
Northridge Lakes Trip					
Role-playing exercises					
Orientation Session (Film & Sweden Report)					

2. How effective was the Environmental Issues Workshop in providing you with the information and experience you need in order to serve as an environmental leader in your school?

(✓) The most appropriate answer:

Very Effective	Effective	Uncertain	Ineffective	Very Ineffective

3. What suggestions do you have for improving this workshop? (Use back of page if necessary)

4. The Environmental Issues Workshop increased my awareness of environmental problems facing the community.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree

Form 7-1

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
CAMPING PROGRAM, 1972 - 1973
STUDENT SURVEY

(To be completed by participating
students after the Camping Program.)

NAME: ____________________

FALL - Please give at least three ecological problems suggested by your study of the camp site.

SPRING - Please give two or more solutions to each problem you listed last fall.

ECOLOGICAL PROBLEMS	SUGGESTED SOLUTIONS
1. ____________________	1. ____________________ 2. ____________________ 3. ____________________ 4. ____________________
2. ____________________	1. ____________________ 2. ____________________ 3. ____________________ 4. ____________________
3. ____________________	1. ____________________ 2. ____________________ 3. ____________________ 4. ____________________
4. ____________________	1. ____________________ 2. ____________________ 3. ____________________ 4. ____________________

ECOLOGICAL PROBLEMS	SUGGESTED SOLUTIONS
5. ____________	1. ____________ 2. ____________ 3. ____________ 4. ____________

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 7-8

ESEA, TITLE III, ENVIRONMENTAL EDUCATION PROGRAM
LAVARNWAY STAFF SURVEY
(To be completed for each student by
the teachers, social worker, and aide)

Student: ______________________________

Staff Member: _________________________

Please refer to the anecdotal records before you complete this survey. For each of the five areas listed below, indicate the direction of change of the student in regard to social interaction with peers.

Please check one.

Area	Positive Change	No Change	Negative Change
Classroom			
Lunchroom			
Gym			
Camp			
Overall			

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Department of Educational Research and Program Assessment

Form 7-10

PANEL RATING FORM

PANEL MEMBER ______________________________

STUDENT ______________________________

Jot down the student's responses to the three questions as best you can. After each set of three questions, rate the three responses to be overall positive or negative by checking the appropriate box.

AREA I. Classroom Atmosphere

Notes: ______________________________

____

____

____

____

Rating - Positive ☐ Negative ☐

AREA II. Classroom Learning

Notes: ______________________________

____

____

____

____

Rating - Positive ☐ Negative ☐

AREA III. Physical and Social Environment in the Lunchroom

Notes: ______________________________

____

____

____

____

Rating - Positive ☐ Negative ☐

AREA IV. Camp Activities

Notes: ____

____

____

____

____

Rating - Positive ☐ Negative ☐

AREA V. Individual Counseling

Notes: ____

____

____

____

____

Rating - Positive ☐ Negative ☐

MILWAUKEE PUBLIC SCHOOLS
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Department of Educational Research and Program Assessment

Form 7-11

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
1972 FALL CAMPING PROGRAM
TEACHER RECORD
(To be completed by participating
teachers during the camping program.)

Camp students have the opportunity to participate in ten conservation/environmental activities. Please list the camp students and the ten conservation/environmental activities, and then check the activities participated in by the students.

STUDENTS	ACTIVITIES									

Form 8-1

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
FALL DEMONSTRATION FARM TRIP
STUDENT TEST

NAME: ______________________________ GRADE: ____________

SCHOOL: ______________________________

Directions: Read each statement carefully and circle Ⓣ if it's true and Ⓕ if it's false.

* * *

1) T F Soil is necessary for almost all of the food produced in the world.

2) T F The amount of crops grown in a field does not really depend on how well the farmer has taken care of his land.

3) T F Both plants and animals benefit from good soil practices.

4) T F Grass, trees, and other plants on the farm and in the city should be protected because they prevent land erosion (the washing away of valuable top soil) and help produce some of the air we breathe.

5) T F A farmer plows his soil mainly to kill weeds.

6) T F Soil is necessary for producing foods for people and animals.

7) T F Farmers should fertilize their land properly to produce healthier crops.

8) T F Farm animals are important to us because they provide meat and milk products for our use.

9) T F A farmer should run a soil test to find out what to add to the soil in order to produce better crops.

10) T F Farmers should rotate their crops regularly in order to return necessary minerals to the earth.

Form 8-2

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
FALL DEMONSTRATION FARM TRIP
TEACHER SURVEY

(To be completed by participating
teachers after the field trip.)

Teacher's Name	School	Grade
Number of Students	Date of Visit	

* * *

1) Do you believe that your classroom students are now more knowledgeable of the working farm and the farmer's role in today's society than they were before the Demonstration Farm experience?

☐ Yes ☐ No

2) Do you believe that your classroom students are more aware of the rural environment than they were before the Demonstration Farm Trip?

☐ Yes ☐ No

3) Do you believe that your classroom students now have a greater understanding of farm products and farm production methods than they had before the Demonstration Farm Trip?

☐ Yes ☐ No

4) Were the outcomes you expected from this trip attained?

☐ Yes ☐ No

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
FALL DEMONSTRATION FARM TRIP
EXPECTED OUTCOMES
(To be filled out by participating
teachers prior to the field trip.)

______________________	______________________
Teacher	School
______________________	______________________
Grade	Date of Visit

After reading the attached excerpt from the Master Plan for Environmental Education (Component 8) and the Oak Ridge farm guide, please indicate your expectations of this farm experience.

Form 8-3

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
FALL DEMONSTRATION FARM TRIP
TEACHER SURVEY

(To be completed by participating
teachers after the field trip.)

______________	______________	______________
Teacher's Name	School	Grade
______________	______________	
Number of Students	Date of Visit	

* * *

1) Was a classroom "garden" planted by students in your class with the supplies provided by the Productivity of the Land unit?

☐ Yes ☐ No

2) Were the outcomes you expected from this trip attained?

☐ Yes ☐ No

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

Form 8-5

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
FALL DEMONSTRATION FARM TRIP
STUDENT SURVEY

(To be completed three weeks after the farm trip by participating students.)

Remember your field trip to the Oak Ridge Farm? Help us to evaluate this field trip by answering the following questions.

* * *

1) Did you take part in a planting activity in your school or community since your visit to Oak Ridge Farm?

☐ Yes ☐ No

2) What things did you like best about the farm trip?

____
____
____
____
____

3) What things did you like least about the farm trip?

____
____
____
____
____

Form 8-6

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
FALL DEMONSTRATION FARM TRIP
TEACHER OBSERVATION FORM

(To be completed by teachers
during farm experience.)

Teacher's Name

School

Grade

Date of Visit

If small group activities are offered during the farm experience, please complete this form by listing under Column One all of your classroom students who go on the Demonstration Farm Trip. Under Column Two, list the activity(ies), if any, in which the corresponding student participated. If a student doesn't participate in any small group activities, enter "None" in Column Two.

COLUMN ONE	COLUMN TWO
STUDENT	Small Group Activity(ies)-If none, indicate.

COLUMN ONE	COLUMN TWO
Student	Small Group Activity(s)-If none, indicate.

Form 8-7

MILWAUKEE PUBLIC SCHOOLS
DIVISION OF PLANNING AND LONG-RANGE DEVELOPMENT
Department of Educational Research and Program Assessment

ESEA, TITLE III ENVIRONMENTAL EDUCATION PROGRAM
DEMONSTRATION FARM TRIP TEACHER SURVEY
(To be completed by participating teachers after the field trip.)

______________________	______________________
Teacher's Name	School

______________	______________	______________
Grade	Approximate Number of Students on Trip	Approximate Date of Visit

* * * * *

Dear Teacher:

This past year, you and your students participated in a trip to the Oak Ridge Demonstration Farm. Please assist in the evaluation of this program by completing this survey and returning it at your earliest convenience. Your cooperation is appreciated.

1. Do you feel that the Visit to the Farm should be included in your classroom unit of the study of farming?

   Yes ____ No ____

2. Prior to the Farm Visit, did your class participate in any pre-trip activities?

   Yes ____ No ____

   If yes, please specify: ______________________

   ____

   ____

   ____

3. Did your class participate in any post trip activities?

   Yes ____ No ____

   If yes, please specify: ______________________

   ____

   ____

   ____

4. While at the farm, did you receive any materials to be used in follow-up classroom activities?

Yes ____ No ____

If yes, how did you use these materials? ________________________________

____

____

____

____

____

5. If changes were to be made in the Visit to the Farm, how do you think the visit could be improved?

____

____

____

____

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____

____

____

____

____

Appendix B

Listing of Proposals Under Open-End Grant Program

Appendix B lists in chronological sequence all mini-proposals submitted for funding under the Open-End Grant Program (Component 4) during the first two project years.

LISTING OF PROPOSALS UNDER OPEN-END GRANT PROGRAM

(COMPONENT #4)

SCHOOL & PROPOSAL NUMBER	TOPIC	AMOUNT OF FUNDS REQUESTED	DATE RECEIVED	ACTION BY REVIEW COMMITTEE	ACTION BY DEPARTMENT DIRECTOR	DATE (FUNDI
Boys' Tech 1000-C	Air Pollution Monitoring Station	$ 372.15	12-17-71	Sent back for revision on 1-20-72		
Boys' Tech 1006-C	Air Pollution Monitoring Station	501.65	Resubmitted 1-21-72	Approved 2-4-72	Dr. Smith approved 3-28-72 with conditions	3-1-72
West 1001-C	Air Pollution Monitoring Station	731.92	1-4-72	Approved 1-20-72	Dr. Smith approved 3-28-72 with conditions	3-1-72
Lincoln 1002-C	"From Seed to Table"-Farm Project	1,600.00	1-10-72	Sent back for revision 1-20-72 (Approved 2-4-72)	Dr. Smith approved 3-1-72 with conditions	3-1-72
Riverside 1004-C	UN Conference in Sweden (tentative)		1-12-72	Approved 1-20-72 to proceed with proposal		
Riverside 1004-C (2)	UN Conference in Sweden (final)	2,905.00	1-26-72	Approved 1-26-72 with conditions	Dr. Smith approved with forward to Dr. Teel 3-1-72 Approved by Dr. Teel April, 1972	5-30-7 Retroa
Madison 1005-C	Study of the Effect of Creosote on the Little Menomonee River	477.76	1-17-72	Approved with conditions 1-26-72	Dr. Smith approved 3-1-72	3-1-72
McKinley 1007-A	Study of King Park	5,581.25	1-26-72	Referred back to School 3-1-72		

PAGE 2

Bay View 1008-C	Theatrical Presentation "A New World Coming"	325.00	1-26-72	Approved 2-2-72	Dr. Smith approved 3-1-72	3-1-7 retro to 2-
McKinley 1009-A	Mobile Classroom	8,280.00	1-26-72	Referred back to school 3-1-72		
McKinley 1011-A	Physical Environment of School	86.00	2-6-72	Approved 3-7-72	Dr. Smith approved 3-30-72	3-31-7
Edison 1012-B	Multi-Media Presentation	3,047.40	2-17-72	Referred back to school 3-7-72 (Approved 3-14-72)	Dr. Smith approved	3-31-7
South 1013-C	Environmental Mobile Displays	875.00	2-18-72	Referred back to school 3-7-72		
West 1014-C	Air Quality Workshop	118.60	2-23-72	Approved 3-7-72	Dr. Smith approved 3-30-72	3-31-7 retroa to 3-2
Sherman 1015-A	Ecology Operetta	130.00	2-29-72	Approved with conditions 3-7-72	Dr. Smith approved 3-30-72	3-31-7
Barton 1016-A	Ecology in the Classroom	194.00	3-1-72	Referred back to school 3-7-72		
Pulaski 1003-C	Environmental Education Program "Test Lane" (Instrumentation)	4,340.00	1-13-72	Approved 3-14-72 with conditions	Dr. Smith approved 3-29-72	3-31-7
Madison 1010-C	Study of Noise Problems (Instrumentation)	1,458.50	2-3-72	Approved 3-14-72 with conditions	Dr. Smith approved 3-29-72	3-31-7
Custer Marshall Washington 1017-C	Noise Monitoring (Instrumentation) Tentative proposal	2,000.00	3-13-72	No action 4-12-72		
Custer Marshall Washington 1018-C	Lincoln Credk Water Pollution Monitoring (Instrumentation) tentative proposal	3,000.00	3-13-72	No action 4-12-72		

PAGE 3

Carleton 1019-A	Environmental Newspaper	311.19	3-13-72	Approved 4-18-72	Dr. Smith approved 5-12-72	to be impleme Fall, 1
South 1020-C	Instrumentation Project: Air Pollution	760.00	3-13-72	Not Approved 3-12-72 Letter sent 3-20-72		
Madison 1021-C	Detection of Echerichia Coli Bacteria in the Milwaukee River	138.00	3-13-72	Approved with conditions 4-12-72	Dr. Smith approved with conditions 5-15-72	to be impleme Fall, 1
Cluster IIIB Elm, 27th, MacDowell, Wisconsin 1022-A	Environmental Education Through Slides and Tapes	160.81	3-17-72	Approved 4-12-72	Dr. Smith approved 5-15-72	to be impleme Fall, 1
Custer 1023-C	Community Involvement to Save Our Resources	2,425.00	3-17-72	Not Approved 4-12-72 Letter sent 4-26-72		
Lancaster 1024-A	Social Action for a Vested Environment (SAVE)	150.00	3-13-72	Not Approved 4-12-72 Letter sent 4-26-72		
Custer 1025-C	Natural Pollution — A Gun to Our Head	800.29	3-17-72	Approved with conditions 4-12-72 - approved camera purchase 4-19-72	Dr. Smith approved with conditions	to be impleme Fall, 1
Clarke St. 1026-A	Project Pride	482.98	3-20-72	Approved 4-19-72	A. Wisniewski approved with conditions Dr. Smith approved with conditions 5-15-72	5-15-72
1027-B Morse Jr.	Students Against Pollution	37.00	3-20-72	Not Approved 4-19-72 Letter sent 5-10-72		
Custer 1028-C	Local Radoactive Atmospheric Air Pollution	575.00	3-21-72	Not Approved 4-19-72 Letter sent 5-10-72		
Custer 1029-C	Noise Pollution Monitoring	1,233.15	4-11-72	Approved with conditions 4-19-72	Dr. Smith approved with conditions 5-15-72	to be impleme Fall, 1

Riverside 1030-C	Lecture by Douglas LaFollette	125.00	4-12-72	Not approved 4-19-72 Letter sent		
Marshall 1031-C	Ecological Analysis of Lincoln Creek (Instrumentation)	2,105.98	4-14-72	Not approved 4-19-72 Letter sent 5-10-72		
McKinley 1032-A	Ecology Ambassadors	108.00	4-14-72	Approved with conditions 4-19-72	Dr. Smith approved with conditions 5-15-72	to be impleme Fall, 1
Fourth St. 1033-A	Environmental Development of an Available Lot	10,850.00	4-19-72	Not approved 4-26-72 Letter sent 5-12-72		
Sholes 1034-B	Outdoor Ecology Laboratory	600.00	4-20-72	Approved with conditions 4-26-72	Dr. Smith approved with conditions 5-26-72 A. Wisniewski approved with conditions 5-19-72	5-26-72 retroac to 5-22-
Ninth St. 1035-A	Ninth Street Beautification Program	221.80	4-20-72	Approved 4-26-72 with conditions	A. Wisniewski approved with conditions 5-19-72 Dr. Smith approved with conditions 5-30-72	5-30-73 retroac to 5-22-
Bell 1036-B	Milwaukee River Study	1,300.00	4-20-72	Not approved 4-26-72 Letter sent 5-12-72		
Allen-Field 1037-A	Planting Seeds of Good Will	1,454.46	4-20-72	Approved with conditions 4-26-72	A. Wisniewski approved with conditions 5-19-72 Dr. Smith approved with conditions 5-30-72	5-30-72 retroact to 5-23-

LISTING OF PROPOSALS UNDER OPEN-END GRANT PROGRAM FOR 1972 - 1973

(COMPONENT #4)

SCHOOL & PROPOSAL NUMBER	TOPIC	AMOUNT OF FUNDS REQUESTED	DATE RECEIVED	ACTION BY REVIEW COMMITTEE	ACTION OF DEPARTMENT DIRECTOR	DATE OF FUNDING
Bell 2000-C	Milwaukee River Study	$ 922.50	7-1-72	Approved 7-1-72	Dr. Smith Approved 10-25-72	10-25-72 Retroacti to 7-1-72
McKinley 2001-A	An In-depth Study of the Development of Dr. Martin Luther King Park	1,234.25	7-1-72	Not Approved 8-3-72 Letter Sent 8-17-72		
West R-2201-C	Air Pollution Monitoring Station	None - Renewal	9-21-72	Approved	Dr. Smith Approved 10-25-72	
Mitchell 2002-A	PIE-People Involved in Ecology	939.10	7-1-72	Not Approved 8-3-72 Letter Sent 8-17-72		
North 2003-C	Humanities As An Aid to Environmental Education	1,571.80	6-30-72	Approved 8-3-72	Dr. Smith Approved 10-25-72	10-25-72 Retroacti to 8-28-7
Sholes and Boys' Tech 2004-B-C	19th National Conference of the Conservation Education Association	312.00	8-9-72	Tent. App. Approved 8-3-72	Dr. Smith Approved 10-24-72	10-24-72 Retroacti to 8-9-72
North 2005-C	We Can Make It Happen	2,995.00	9-20-72	Not Approved 9-27-72 Letter Sent 10-2-72		
South 2006-C	Determination of Asbestos Levels in the Air Supply in the Community Adjacent to South Division	800.00	10-18-72			

LISTING OF PROPOSALS UNDER OPEN-END GRANT PROGRAM

SCHOOL & PROPOSAL NUMBER	TOPIC	AMOUNT OF FUNDS REQUESTED	DATE RECEIVED	ACTION BY REVIEW COMMITTEE	ACTION BY DEPARTMENT DIRECTOR	DATE OF FUNDING
South 2006-C	Determination of Asbestos Levels in the Air Supply in the Community Adjacent to South Division (instrumentation)	$ 800.00	10-18-72	Approved under Instrumentation 10-25-72	Dr. Smith Approved 11-29-72	11-29-72
20th 2007-A	Park Improvement Through Ecology	1,500.00	11-15-72	Not Approved 11-29-72 Letter Sent 12-11-72		
Riverside 2008-C	Man Made Tree for Arbor Day	2,000.00	11-15-72	Not Approved 11-29-72 Letter Sent 12-12-72		
Madison 2009-C	Pollution of Wisconsin's Waterways By Man (Instrumentation)	1,500.00	11-15-72	Approved 11-29-72 With Conditions	Dr. Smith Approved 12-21-72 With Conditions	12-21-72
King 2010-C	Painting of Quality for the Public Housing of the Elderly	919.70	11-20-72	Approved 11-29-72 With Conditions	Dr. Smith Approved 12-21-72 With Conditions	12-21-72
North 2011-C	We Can Make It Happen	2,995.00	11-20-72	Approved With Conditions - Funding Under Option A, AMS Studios 11-29-72	Dr. Smith Approved With Conditions 12- 8-72	12- 8-72
Pulaski R-2202-C	Environmental Education Program "Test Lane" (Instrumentation) Renewal	650.00	11-28-72	Approved 11-29-72 With Conditions	Dr. Smith Approved 12-27-72 With Conditions	12-27-72
Edison 2012-B	Edison School Action Committee Slide Presentation	146.80	12- 7-72	Approved 1-3-73 With Conditions	Dr. Smith Approved 1-18-73 With Conditions	1-18-73
Kosciuszko 2013-B	Reuse - Not Abuse	443.90	12- 7-72	Approved 1-3-73 With Conditions	Dr. Smith Approved 1-18-73 With Conditions	1-18-73
Juneau 2014-C	Study of Noise Pollution and Particulate Matter Pollution	44.08	12-29-72	Approved 1-3-73 With Conditions	Dr. Smith Approved 1-18-73 With Conditions	1-18-73

LISTING OF PROPOSALS UNDER OPEN-END GRANT PROGRAM

SCHOOL & PROPOSAL NUMBER		AMOUNT OF FUNDS REQUESTED	DATE RECEIVED	ACTION BY REVIEW COMMITTEE	ACTION BY DEPARTMENT DIRECTOR	DATE OF FUNDING
Washington 2015-C	Washington Lagoon Scuba Clean-Up	$421.00	1-9-73	Approved 1-31-73 with conditions	Approved by Dr. Smith with conditions	3-13-73
Boys' Tech 2016-C	Saving Ears	2,114.00	1-9-73	Approved 1-31-73	Dr. Smith approved 3-1-73	3-1-73
Cluster VIA 2017-A	Ecology Ambassadors	395.00	1-18-73	Approved 1-31-73 with conditions	Dr. Smith approved 3-5-73 with conditions	3-5-73
Riverside 2018-C	Menomonee River Pollution Project	446.00	1-18-73	Not Approved 1-31-73 Letter sent 2-9-73		
Rufus King 2019-C	Graphics Communications	2,101.56	1-22-73	Not approved 1-31-73 Letter sent 2-9-73		
Washington 2020-C	Recycled Paper for the Scroll Newspaper	924.48	1-22-73	Not approved 1-31-73 Letter sent 2-9-73		
Hamilton 2021-C	Awareness: Earth Week	137.84	2-15-73	Approved 2-22-73	Dr. Smith approved 3-12-73	3-12-73
Hamilton 2022-C	Film Festival	147.02	2-15-73	Approved 2-22-73	Dr. Smith approved 3-12-73	3-12-73
Rufus King 2023-C	Rufus King Wind Sail	1,398.50	2-16-73	Not approved 2-22-73 Letter sent 3-6-73		
Riverside 2024-C	Ear Aid	1,200.00	2-16-73	Approved 2-22-73 with conditions	Dr. Smith approved 3-12-73 with conditions	3-12-73

Appendix C

Needs Assessment Instrumentation

This appendix contains two instruments: a needs assessment instrument completed by several planning groups, and a student group response sheet completed by the student planning group. Used midway through the 1972-73 project year, these instruments provided information to program personnel during development of the Master Plan for the 1973-74 project year.

milwaukee public schools

NEEDS ASSESSMENT
ENVIRONMENTAL EDUCATION PROGRAM

In your opinion what needs are not being met by the present environmental education programs?

____

____

____

____

____

____

____

____

____

____

____

What populations should be but are not being involved effectively by the present environmental education programs?

A. Elementary Teachers
B. Secondary Teachers
C. Elementary Students
D. Secondary Students
E. School Administrators
F. Supervisory Personnel
G. Parents and the General Public
H. Community Groups
I. Elementary Teacher Cadre
J. Secondary Teacher Cadre
K. Potential New Teacher Cadre
L. Student Cadre
M. School Action Committees
N. Teacher Cluster Committees
O. Project Advisory Council
P. Handicapped Children
(Please specify hancap)
____
Q. Others: ____________________
____

I. LEADERSHIP DEVELOPMENT ACTIVITIES

What specific Leadership Development Activities are needed, for what groups?

(Please indicate by assigning group identification letters)

Target Groups

__________ 1. Summer course or workshop for university credit at live-in site. (tuition paid)

__________ 2. Summer course or workshop for university credit at local institution. (tuition paid)

__________ 3. Summer course or workshop for one week in a camp setting. (salary paid)

__________ 4. Summer conference, seminar or workshop for 3 - 5 days.

__________ 5. Saturday conference, seminar or workshop during the school year.

__________ 6. A weekend retreat during the school year.

__________ 7. Urban and rural field trips.
Suggestions: ______________________________
____
____

__________ 8. Pre-semester orientations.

__________ 9. Involvement with local professional groups.

__________ 10. Involvement with environmental and other community groups.

__________ 11. Other ____________________ ____________________

II. TRAINING ACTIVITIES

What specific training activities need to be developed for what groups?

Target Groups

__________ 1. Television Workshops

__________ 2. Encounter Worksops

__________ 3. Seminars

__________ 4. Conferences

__________ 5. University courses

Target Groups

__________ 6. Cluster events

__________ 7. Staff planning day activities

__________ 8. Field Trips

__________ 9. Others: __________
____

III. TRAINING ACTIVITIES — AREAS OF STUDY

What areas of study or training needs to be developed for what groups?

Target Groups

__________ 1. Man and his environment

__________ 2. Environmental attitudes and values

__________ 3. Environmental problems and solutions

__________ 4. Environmental action (community involvement)

__________ 5. Organizational and leadership skill development (group dynamics)

__________ 6. Ecological relationships

__________ 7. School plan development

__________ 8. Use of instructional resources in environmental education

__________ 9. Using outdoor learning centers

__________ 10. Use of simulation games

__________ 11. Other: ______________________________

__________ ____________________________________

IV. CURRICULUM ACTIVITIES

What specific curriculum activities are needed for what group?

Target Groups

_____ 1. Preparation of curriculum outlines and guides

_____ for _____
Subject area Grade level

_____ for _____
Subject area Grade level

_____ for _____
Subject area Grade level

_____ 2. Purchase of curriculum materials for school use.

_____	guides	_____	textbooks
_____	aids	_____	resource books
_____	prepared kits	_____	lab equipment

_____ 3. Development of specific courses of study or mini-courses in environmental education.

_____ for _____
Subject areas involved Grade levels

_____ for _____
Subject areas involved Grade levels

_____ for _____
Subject area involved Grade levels

_____ 4. Training sessions in curriculum writing techniques.

_____ Summer workshop
_____ In-service workshop
_____ 1-3 day session

_____ 5. Training session in objective seeking and writing.

_____ 6. Training session in assessment and evaluation techniques.

_____ 7. Training session on use of developed curriculum materials.

_____ 8. Others: _____

_____ _____

V. FIELD EXPERIENCES

What specific field experiences are needed for what group?

Target Groups

__________ 1. Development of urban field experiences.
Please list examples:
____
____
____
____

__________ 2. Development of rural field experiences.
Please list examples:
____
____
____
____

__________ 3. Development of written guides for above-listed experiences.
Which experiences?
____
____
____
____

__________ 4. Development of specific "units" of study in conjunction with urban and rural experiences.
Which experiences?
____
____
____
____

__________ 5. Training session in techniques of guiding a field experience.

__________ 6. Development of an Environmental Education Mobile Laboratory as a learning center.

__________ 7. Expansion of Oak Ridge Farm as a learning center.

__________ 8. Exploration of vest pocket parks (vacant lots) as learning centers.

__________ 9. Development of urban land tracts such as the "nike site" as learning center.

__________ 10. Expanded use of existing park areas as learning centers.

__________ 11. Development and use of immediate school neighborhoods as learning sites.

__________ 12. Others ____________________________________
____
____

VI. SCHOOL ACTION ACTIVITIES

What specific school action activities need to be developed for what group?

Target Groups

________ 1. Assistance in the organization and operation of environmental action groups.

________ 2. Assistance in the development of mini-proposals.

________ 3. The development of media productions.

________ 4. The development of city-wide environmental education events.

________ 5. Assistance in the development of school beautification programs.

________ 6. Field trips to view city, county, and state hearings involving environmental affairs.

________ 7. Assistance in means of involving the community.

________ 8. Assistance in organizing outreach activities (high school into elementary schools).

________ 9. Assistance in organizing cooperative cluster-wide activities.

________ 10. Others ________________________

________ 11. ____________________________

________ 12. ____________________________

VII. COMMUNITY EDUCATION ACTIVITIES

What specific community education activities are needed? (List in priority in column VII on the matrix under your target group only)

___ 1. Development of curriculum for Adult Classes.

___ 2. Development of PTA presentations

___ 3. Involvement of the community in in-service offerings

___ 4. Development of school-based community wide environmental programs

___ 5. Involvement of parents in school action activities

___ 6. Increased involvement of the community in project management activities (Advisory Council)

___ 7. Others: ______________________________

___ ______________________________

VIII. PUBLIC RELATIONS

What specific public relations activities are needed? (List in priority in column VIII on the matrix under your target group only)

___ 1. Environmental columns in each school paper

___ 2. The development of information for use by community newspapers

___ 3. The development of project informational packages for local business and industry

___ 4. The development of project informational packages for local environmental groups

___ 5. A concerted effort for more publicity of project activities in the Journal and Sentinel and on local television

___ 6. A continuation of the Cadre Courier newsletter

___ 7. Others: ______________________________

___ ______________________________

IX. PERSONNEL NEEDS

What specific personnel needs are necessary?

___ 1. Additional trained environmental educators (Cadre) How Many? ______

___ 2. Additional trained students. How Many? ______

___ 3. Additional technical assistance. In what areas ________________

____

___ 4. A community based volunteer force to assist in school activities.

___ 5. Community resouce persons. In what areas? ________________

____

___ 6. A speakers bureau on various environmental topics

___ 7. Released time for involvement in school environmental education activities

___ 8. Others: ______________________________________

X. REDEFINITIONS OF ROLES

What specific roles need to be redefined?

___ 1. Cadre

___ 2. Student Cadre

___ 3. Advisory Council

___ 4. Coordinator

___ 5. Evaluator

___ 6. Technical Assistants

___ 7. Field Trip Consultant

XI. ACTIVITIES

Which of the following activities are most needed in the Environmental Education Program?

____ 1. Leadership Development Activities

____ 2. Training Activities

____ 3. Curriculum Development Activities

____ 4. Field Experience Activities

____ 5. School Action and Mini-Proposal Programs

____ 6. Community Education Activities

____ 7. Public Relations Activities

____ 8. Others ____

____ ____

milwaukee public schools

ENVIRONMENTAL EDUCATION
CONTINUATION GRANT PLANNING

Student Group Response Sheet

SUMMER ACTIVITIES

Last summer the Environmental Education Program sponsored a new summer school enrichment offering for one credit entitled Environmental Issues. It was held every morning from 8:00a.m. to 12:00 noon for three weeks in two locations, Custer and Pulaski High Schools. What type of summer school offering would you like to see planned for this summer?

Which days and hours should it be held?

At what locations?

2. What would you like to see included in such a course?

Topics:

Field Trips:

Resource persons:

Materials:

3. What ideas do you have for the promotion of a summer school course?

4. Other summer activities

A. Student Leadership Training

Who ______________________ For how long ________________

When _____________________ Where ______________________

Content:

B. The development of specific school plans

Who ______________________ For how long ________________

When _____________________ Where ______________________

C. Small study group activities in specific areas

In what areas?

For how long?

When?

SCHOOL PROGRAMS

1. What ideas do you have for developing and implementing school programs that would increase student and faculty awareness of environmental problems and solutions?

2. What suggestions do you have for involving a greater number of students in activities concerning the environment?

3. What ideas do you have for the promotion of the mini-proposal program in the schools?

COURSES OF STUDY

1. If a special course of study in "environmental issues" is developed, what subject matters and activities would you include?

2. If you were to plan a field trip to improve environmental awareness and knowledge of the urban community, what would this trip include? Be specific, i.e., How long? What kinds of sites would be visited? What kinds of on-trip activities would you include? etc.

ALL CITY PROJECTS

At present the Junior Inter-High Council is planning a city-wide can recycling program for sometime this Spring.

1. What other ideas do you have for all city programs, workshops, seminars, projects or activities?

2. If we were to have an all day seminar on a particular environmental issue what would you like to see included in the day's activities?

How many students do you think will come out for this type of activity?

Your task is to plan a program for secondary students that will increase awareness of environmental problems and solutions. As project planners you have $50,000 to spend. Identify some of the activities you would consider as most important and the amount of money you would allocate to the development and implementation of these activities.

Appendix D

Needs Assessment Procedure

This needs assessment procedure was developed during the second project year for use during the third project year.

ENVIRONMENTAL EDUCATION

NEEDS ASSESSMENT PROCEDURE

This needs assessment procedure was designed to assist in the establishment of program priorities both between and within the eight project components. This approach to needs assessment requires that program personnel identify potential needs within each proposed component. Figure 1 indicates these relationships by means of a two-dimensional matrix array. Program components are listed along the left side of the matrix while thrusts or needs within components are presented across the top of the matrix. Each cell in this matrix array corresponds to a potential need or thrust within a program component.

A needs assessment instrument consisting of one item for each potential need, cell location, would be developed. Figure 2 presents a sample of the format for such an instrument. Responses to the separate items would be represented by single-digit whole numbers. A computer program would be used to calculate the means and standard deviations for the responses to each item and then would give a rank-ordering of the potential needs by mean and by standard deviation. A high mean and a low standard deviation would indicate a strong agreement for that program need.

FIGURE 1

SAMPLE
NEED MATRIX

	THRUSTS (User Supplied)								
PROGRAM COMPONENTS	Population	Solid Waste	Water	Air	Transportation	Energy	Cities	Green Belts	ROW TOTALS
One									
Two									
Three									
Four									
Five									
Six									
Seven									
Eight									
COLUMN TOTALS									

FIGURE 2

SAMPLE INSTRUMENT
LIKERT SCALE

Circle the number that best indicates how well current component programs are meeting each stated need.

Component 1	Not At All	Poor	Fair	Just Right	Too Much
1. An awareness of the problems related to physical disposal of solid wastes	1	2	3	4	5
2. An understanding of the relationship of water quality to life essentials and styles	1	2	3	4	5
⋮					
8. An understanding of the basic concepts of air quality	1	2	3	4	5
Component 2					
1. An awareness of the problems related to physical disposal of solid wastes	1	2	3	4	5
2. An understanding of the relationship of water quality to life essentials and styles	1	2	3	4	5
⋮					
8. An understanding of the basic concepts of air quality	1	2	3	4	5
⋮					
Component 8					
1. An awareness of the problems related to physical disposal of solid wastes	1	2	3	4	5
2. An understanding of the relationship of water quality to life essentials and styles	1	2	3	4	5
⋮					
8. An understanding of the basic concepts of air quality	1	2	3	4	5